

Final

Duplicate DEIS Public Comments Appendix

Shasta Lake Water Resources Investigation, California

Prepared by:

**United States Department of the Interior
Bureau of Reclamation
Mid-Pacific Region**



December 2014

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Duplicate DEIS Public Comments

This appendix presents copies of the duplicate form letters and duplicate comment letters received on the Shasta Lake Water Resources Investigation DEIS. Table 1, below, presents an index of the duplicate comments received organized by type (Elected, Federal, State, Tribe, Local, Organization, or Individual), and then alphabetically by name. The index indicates the comment abbreviation of the original comment letter that is provided in Chapter 33 of the EIS with responses, and the page that the duplicate comment appears in this appendix.

Table 1. Duplicate Comments on Draft EIS

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Elected Official	California State Senate	Nielsen, Senator Jim	D-NIEL	E-NIEL	10
Federal Agency	Department of Energy, Western Area Power Administration, Sierra Nevada Region	Anderson, Sonja	D-WAPA	F-WAPA	12
Federal Agency	U.S. Environmental Protection Agency	Goforth, Kathleen Martyn	D-EPA	F-EPA	15
Federal Agency	Dept. of the Army, USACE Sacramento	Kelley, Matthew P.	D-USACE	F-USACE	22
Federal Agency	Shasta-Trinity National Forest, National Recreation Area Management Unit	Rezeau, Nathan	D-USFS2	F-USFS2	24
Tribe	United Auburn Indian Community of the Auburn Rancheria	Guerrero, Marcos	D-UAICAR	T-UAICAR	29
State Agency	CA Fish and Wildlife	Baker, Dawn	D-DFW	S-DFW	30
State Agency	Department of Transportation	Marcelino, Gonzalez	D-CTAN2	S-CTAN2	47
State Agency	Delta Stewardship Council	Messer, Cindy	D-DSC	S-DSC	49
State Agency	California Water Boards, State Water Resources Control Board, Division of Water Rights	Mrowka, Katherine	D-SWRCB	S-SWRCB	52
State Agency	State of CA Central Valley Flood Protection Board (CVFPB)	Punia, Jay S.	D-CVFB2	S-CVFB2	55
Local Agency	State Water Contractors (SWC)	Erlewine, Terry L.	D-SWC	L-SWC	60
Local Agency	Mayor, City of Shasta Lake	Farr, Mayor Larry J.	D-FARR	P-FARR	62
Local Agency	Santa Clara Valley Water District	Garcia, Sherwood	D-SCVWD	L-SCVWD	71
Local Agency	Stockton East Water District	Johnson, Michael	D-SEWD	I-SEWD	73

Table 1. Duplicate Comments on Draft EIS (contd.)

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Local Agency	Santa Clara Valley Water District	Kao, Cindy	D-SCVWD	L-SCVWD	74
Local Agency	City of Shasta Lake	Miller, Tom	D-COSL1	L-COSL1	85
Local Agency	City of Shasta Lake	Miller, Tom	D-COSL3	L-COSL3	89
Local Agency	San Luis & Delta-Mendota Water Authority	Nelson, Daniel	D-SLDMWA	L-SLDMWA	92
Local Agency	Contra Costa Water District	Orloff, Leah	D-CCWD2	L-CCWD2	102
Organization/ Special Interest Group	Friends of the River	Center, Bob	D-FOTR1	O-FOTR1	105
Organization/ Special Interest Group	Pacific Gas and Electric Company, Law Department	Diamond, Betsie c/o Annette Faraglia, ESQ	D-PGE4	O-PGE4	108
Organization/ Special Interest Group	Pacific Gas and Electric Company	Diamond, Elizabeth	D-PGE6	O-PGE6	110
Organization/ Special Interest Group	Pacific Forest Trust	Doherty, Patrick	D-PFT1	O-PFT1	112
Organization/ Special Interest Group	Pacific Forest Trust	Doherty, Patrick	D-PFT2	O-PFT2	114
Organization/ Special Interest Group	Lake Shasta Caverns	Doyle, Matthew W.	D-SLBOA	O-SLBOA	123
Organization/ Special Interest Group	Friends of the River, California Wilderness Coalition	Evans, Steven L.	D-FOTR1	O-FOTR1	126
Organization/ Special Interest Group	Citizens for Clean Air	Flame, Rose	D-FLAM	O-CFCA1	162
Organization/ Special Interest Group	Friends of the Delta Watershed	Flame, Rose	D-FOTDW1	O-FOTDW1	171
Organization/ Special Interest Group	Citizens for Clean Air	hswriter@frontiernet.net	D-HSWR	O-CFCA1	176

Table 1. Duplicate Comments on Draft EIS (contd.)

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Organization/ Special Interest Group	The California Parks Company	Koeberer, Kris	D-TCPC	O-TCPC	185
Organization/ Special Interest Group	Dale La Forest and Associates	La Forest, Dale	D-LAFO	O-LAFO	187
Organization/ Special Interest Group	The Nature Conservancy	Luster, Ryan	D-TNC	O-TNC	200
Organization/ Special Interest Group	Salt Creek Summer	Maggiore, Vince and Desiree LaGrone-Maggiore	D-SCSHA	O-SCSHA	252
Organization/ Special Interest Group	Save the California Delta Alliance (STCDA)	McCleery, Janet	D-STCDA	O-STCDA	255
Organization/ Special Interest Group	Sacred Land Film Project	McLeod, Toby	D-SLFP	O-SLFP	256
Organization/ Special Interest Group	Lakehead Community Development Association	Myers, Joe	D-LCDA	O-LCDA	318
Organization/ Special Interest Group	Natural Resources Defense Council	Obegi, Doug and Rachel Zwilling	D-NRDC1	O-NRDC1	321
Organization/ Special Interest Group	Porgans & Associates	Porgans, Patrick	D-PORG	O-PORG	343
Organization/ Special Interest Group	CA Farm Bureau Federation, Office of the General Counsel	Scheuring, Christian C.	D-CFBF	O-CFBF	346
Organization/ Special Interest Group	Environment Committee, Rotary Club of Redding	Smith, Randall R.	D-RCOR	O-RCOR	349
Organization/ Special Interest Group	Citizens for Clean Air	Strand, Celeste Draisner and Heidi	D-CFCA1	O-CFCA1	350
Organization/ Special Interest Group	Northern California Power Agency (NCPA)	Toenyes, Jerry	D-NCPA	O-NCPA	357
Individual		Abbe, Jessica	D-ABBE	I-ABBE	359
Individual		Adomite, Laurie	D-ADOM	I-MOSS1	361

Table 1. Duplicate Comments on Draft EIS (contd.)

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Individual		Alderson, George	D-ALDE	I-TOSS	363
Individual		Ambrogi, Karen	D-AMBR	I-TOSS	365
Individual	Riverview Golf & Country Club	Anderson, Don	D-RGCC	I-RGCC	367
Individual		Anger, Robert	D-ANGE	I-MOSS1	368
Individual		Bahr, Larry	D-BAHR	I-TOSS	373
Individual		Ball, Jeff	D-BALL	I-TOSS	375
Individual		Barrett, John E. Barrett and Gail	D-BARRE	I-BARRE	377
Individual		Batchelder, Philip	D-BATC	I-TOSS	378
Individual		Beal, Marc P.	D-BEAL	I-BEAL	380
Individual		Beebe, Gordon	D-BEEB	I-TOSS	382
Individual		Bishop, Steve and Dorothy	D-BISH	I-BISH	384
Individual		Boudefoua, Ferhat	D-BOUD	I-BOUD	387
Individual		Brennan, Brien	D-BREN	I-MOSS1	391
Individual		Brennan, Dianne	D-BRENN	I-MOSS1	394
Individual	Esselen Tribe of Monterey County	Brennan, John	D-ESSE	I-ESSE	396
Individual		Brinkhurst, Jim and Cyndi	D-BRIN	I-TOSS	398
Individual		Burger, Bitsa	D-BURG	I-TOSS	400
Individual		Busby, Lois I.	D-BUSB	I-BUSB	402
Individual		Campbell, Kathryn Kirkman	D-KIRK	I-KIRK	403
Individual		Ceragioli, James S.	D-CERA2	I-CERA2	404
Individual		Ceragioli, Jim	D-CERA1	I-CERA1	405
Individual		Chen, Allen	D-CHEN	I-TOSS	406
Individual		Chitewere, Tendai	D-CHIT	I-CHIT	408
Individual		Christie, Keith,	D-KEIT	I-MOSS1	423
Individual		Cipra, Michael	D-CIPR	I-TOSS	426
Individual		Clarke, JoAnne	D-CLAR	I-CLAR	428
Individual		Clifford M. Hunter	D-HUNT	I-HUNT	432
Individual		Coleman, Judy	D-COLE	I-COLE	433
Individual		Cooper, Barbara	D-COOP	I-TOSS	435
Individual		Correia	D-CORR	I-MOSS1	437
Individual		Courtier, Christophe	D-COUR	I-COUR	439
Individual		Crosland, Richard	D-CROS	I-TOSS	441
Individual		Darling, Jeff	D-DARL	I-MOSS1	444
Individual		Denison, Lou Anna	D-DENI	I-TOSS	446
Individual		Dinh, Zack Haison	D-DINH	I-DINH	448
Individual		Donaldson, Michelle	D-DONA	I-MOSS1	450

Table 1. Duplicate Comments on Draft EIS (contd.)

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Individual		Dylan, Keel,	D-KEEL	I-TOSS	453
Individual		Edmiaston, Mayrene	D-EDMI	I-EDMI	455
Individual		Emmons, John-Eric	D-EMMO	I-EMMO	456
Individual		Fagerskog, Carl	D-FAGE	I-TOSS	457
Individual		Fahner, Fredrick W.	D-FAHN	I-FAHN	461
Individual		Filipelli, Deborah	D-FILI	I-TOSS	462
Individual		Floyd, Kim F.	D-FLOY	I-TOSS	465
Individual		Fortino, Robert S. & Jane Phillips Fortino	D-FORT	I-FORT	467
Individual		France, Jeanne	D-FRAN1	I-FRAN1	468
Individual		Freeman, Kyri	D-KFREE	I-TOSS	469
Individual		G, Sujay	D-SUJA	I-MOSS1	471
Individual		Garabedian, Hrach	D-GARA	I-GARA	473
Individual		Garcia, Jesus	D-GARCI	I-GARCI	474
Individual		Gary, Klehr,	D-KLEH	I-MOSS1	475
Individual		Giesen, Erika	D-GIES	I-MOSS1	478
Individual		Goggins, Alan	D-GOGG	I-TOSS	481
Individual		Gowan, Jeffrey	D-GOWAN	I-TOSS	483
Individual		Gowan, Jnana	D-GOWA	I-TOSS	485
Individual		Green, Sue	D-GREE	I-MOSS1	487
Individual	Tsasdi Resort	Grey, David	D-TSAS2	I-TSAS2	489
Individual		Guerrero, Daniel	D-GUER	I-GUER	492
Individual		Gurries, Richard F. and Laurie L. Gurries	D-GURR	I-GURR	495
Individual	Shasta Marina Resort	Harkrader, John and Anna	D-SMR	I-SMR	496
Individual		Harte, Mary	D-HART	I-TOSS	499
Individual		Hauck, Jessica	D-HAUC	I-HAUC	501
Individual		Hazelton, Scott & Laura	D-HAZE1	I-HAZE1	502
Individual		Hazelton, Scott & Laura	D-HAZE2	I-HAZE2	504
Individual		Hebert, Allene	D-HEBE	I-MOSS1	505
Individual		Hekkelman, Jamie	D-HEKK	I-HEKK	507
Individual	Tom Hesseldenz & Associates	Hesseldenz, Tom	D-HESS	I-HESS	511
Individual		Hill, Zack	D-HILL	I-HILL	512
Individual		Hoaglund, Judy	D-HOAG	I-TOSS	513
Individual		Hodson, Brianne	D-HODS	I-HODS	515
Individual		Hollister, Sidney, J.P.	D-HOLL	I-MOSS1	517
Individual		Holmes, Joanna	D-HOLM	I-MOSS1	519
Individual		Holtzclaw, John	D-HOLTZ	I-TOSS	522

Table 1. Duplicate Comments on Draft EIS (contd.)

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Individual		Hunrichs, Paul G.	D-HUNR	I-TOSS	524
Individual		Imhof, Sheena	D-IMHO	I-IMHO	526
Individual		Irvine, Roblee and Al	D-IRVI	I-IRVI	529
Individual		Jones, May	D-JONE	I-TOSS	530
Individual		Kass, Sarah	D-KASS	I-MOSS1	532
Individual		Kendall, Enid and Arthur	D-KEND	I-KEND	534
Individual		Kisling, Tom & Mardi	D-KISL3	I-KISL3	535
Individual		Kohen, Eitam	D-KOHE	I-KOHE	536
Individual		Kohler, Richard A.	D-KOHL	I-MOSS1	539
Individual		Kossack, David S., PhD.	D-KOSS	I-TOSS	541
Individual		Kuelper, Carol	D-KUEL	I-TOSS	543
Individual		Kurcab, Kim	D-KURC	I-TOSS	545
Individual		Lambert, Harmony	D-LAMB	I-MOSS1	547
Individual		Larcade, Denise	D-LARCA	I-LARCA	550
Individual		Lee, Erin	D-LEE	I-MOSS1	554
Individual		Lehman, Audra	D-LEHM	I-TOSS	556
Individual		Li..., Kate B.	D-KATE	I-MOSS1	558
Individual		Linarez, Karen	D-LINA	I-TOSS	560
Individual		Lincke, Jack	D-LINC	I-TOSS	562
Individual		Lind, Pat	D-LIND	I-MOSS1	565
Individual		Lindley, Catherine	D-LINDL	I-LINDL	567
Individual		Linney, Doug	D-LINN	I-TOSS	568
Individual		Lorenzetti, Dennis	D-LORE	I-LORE	570
Individual		Lynn, Sue	D-LYNN	I-MOSS1	573
Individual		Mack, Callie	D-MACK	I-TOSS	575
Individual		MacNeil, Debbie	D-MACN	I-MACN	577
Individual		Marin, Gerardo O.	D-MARIN	I-MOSS1	578
Individual	Lakeshore Inn & RV	Marshall, Ross & Charlotte H.	D-LSIR	I-LSIR	580
Individual		Martin, Shirley	D-MART	I-MART	589
Individual		Maureen Sechrengost	D-SECH	I-SECH	590
Individual		McCarthy, Linda	D-MCCA	I-MOSS1	592
Individual		McDonald, Rob	D-NORC	I-NORC	595
Individual		McKee, Richard	D-MCKE	I-TOSS	596
Individual		McLaughlin, Michael	D-MCLA	I-MCLA	599
Individual		McPherson, Melanie	D-MCPH	I-MCPH	600
Individual		McVarish, Linda	D-MCVA	I-TOSS	601
Individual		Mitchell, Herbert	D-MITC	I-MITC	603

Table 1. Duplicate Comments on Draft EIS (contd.)

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Individual		Moss, Paul	D-MOSS2	I-MOSS1	604
Individual		Moss, Paul	D-MOSS1	I-MOSS1	606
Individual		Muirhead, J. Fraser	D-MUIR	I-TOSS	608
Individual		Mungol, Indra R.	D-MUNG	I-MOSS1	609
Individual		Murphy, David	D-MURP	I-MURP	611
Individual		Narbutovskih, Anna	D-NARB	I-TOSS	613
Individual		Nishio, John N.	D-NISH	I-NISH	615
Individual		Nitta, Alex	D-NITT	I-TOSS	617
Individual		O'Connor, Sorca	D-OCON	I-MOSS1	619
Individual		O'Halloran, Elizabeth	D-OHAL	I-OHAL	621
Individual		Oselett, Barry	D-OSEL	I-TOSS	622
Individual		Oyung, Frank	D-OYUN	I-OYUN	624
Individual		Palmer, Gracious A.	D-PALM1	I-PALM1	625
Individual		Pantalone, Al	D-PANT3	I-MOSS1	626
Individual		Parks, Katie	D-PARK	I-PARK	628
Individual		Parrinello, Will	D-PARR	I-MOSS1	629
Individual		Pearce, John	D-PEAR	I-TOSS	631
Individual		Pedersen, Karen	D-PEDE	I-TOSS	633
Individual		Perkins, Lowell S.	D-PERK	I-PERK	635
Individual		Perkins, Michelle	D-PERK1	I-PERK1	636
Individual		Petratis, Mike and Jeannette	D-PETR	I-PETR	637
Individual		Phelps, Ed Smith & Virginia	D-PHEL1	I-PHEL1	638
Individual		Philip G. Marquis	D-MARQ	I-MARQ	639
Individual		Philip, Simon	D-PHIL1	I-TOSS	641
Individual		Powell, Charles	D-POWE	I-TOSS	643
Individual		Quiros, Marcie	D-QUIR	I-MOSS1	645
Individual		Raven Stevens	D-STEV	I-STEV	647
Individual	Silverthorn Resort	Reha, Michael	D-SILV	I-SILV	648
Individual		Reid, Matt	D-REID	I-TOSS	649
Individual		Richard, Silke	D-RICH2	I-MOSS1	651
Individual		Roderick, Steve & Richard	D-RODE	I-RODE	653
Individual		Sagan, Minnie	D-SAGA	I-MOSS1	654
Individual		Sally, Debra	D-SALL	I-TOSS	656
Individual		Schaafsma, William R., Elizabeth Schaafsma	D-SCHAA	I-SCHAA	658
Individual		Schenck, Alan	D-SCHE	I-TOSS	660
Individual		Schillo, Noah	D-SCHI	I-TOSS	662

Table 1. Duplicate Comments on Draft EIS (contd.)

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Individual		Seaborg, David	D-SEAB	I-TOSS	663
Individual		Searle, Richard C.	D-SEAR	I-MOSS1	665
Individual		Shanafelt, Callie	D-SHAN	I-MOSS1	667
Individual		Shetrawski, Heather	D-SHET	I-SHET	669
Individual		Silver, Dan	D-DSILV	I-TOSS	673
Individual		Sims, Sharon	D-SIMS	I-MOSS1	675
Individual	Environment Committee, Rotary Club of Redding	Smith, Randall R.	D-SMIT2	I-SMIT2	677
Individual		Spears, Connie	D-SPEA	I-TOSS	678
Individual		St. Amat, Tony	D-STAM	I-STAM	680
Individual		Stacy, Kline,	D-KLIN1	I-TOSS	683
Individual		Stacy, Kline,	D-KLIN2	I-TOSS	685
Individual		Stapleton, Michael	D-STAP	I-STAP	687
Individual		Steensma, Monica and Hugo	D-STEE	I-STEE	688
Individual		Stellar, Joni	D-STEL	I-TOSS	690
Individual		Stern, Herb	D-STERN	I-TOSS	692
Individual		Stone, Jeffrey	D-STON	I-TOSS	694
Individual		Straub, Carolyn	D-STRAU	I-TOSS	696
Individual		Su, Catherine	D-SU	I-SU	699
Individual		Sullivan, Terrie C.	D-SULL	I-SULL	701
Individual		Svoboda, Deborah	D-SVOB	I-SVOB	703
Individual		Swan, Narim	D-SWAN	I-MOSS1	707
Individual		Switzky, Joshua	D-SWIT	I-TOSS	709
Individual		Taaffe, Michael	D-TAAF	I-TOSS	711
Individual		Takaro, Mark	D-TAKA	I-TOSS	713
Individual		Thompson, David	D-DTHO	I-MOSS1	715
Individual		Thompson, Jon	D-THOMPS	I-TOSS	717
Individual		Thompson, Sarah Glenn	D-THOMP	I-MOSS1	719
Individual		Thrasher, Dianna	D-THRA	I-TOSS	721
Individual		Tollgaard, Alden S.	D-TOLL	I-TOLL	724
Individual		Unknown	D-BSW	I-MOSS1	728
Individual		Unknown	D-PAL	I-MOSS1	730
Individual		Unknown	D-MIUS	I-MOSS1	732
Individual		Unknown	D-JIM	I-MOSS1	734
Individual		Van Ry, Diana and Allan Tilton	D-VANR	I-TOSS	736

Table 1. Duplicate Comments on Draft EIS (contd.)

Type	Affiliation	Name	Comment Abbreviation	Duplicate of	Page Number
Individual		Vandrack, Jason	D-VAND	I-VAND	739
Individual		Veal, Chris	D-VEAL	I-VEAL	740
Individual	Law Offices of Stephan C. Volker, Attorney for the Winnemem Wintu Tribe	Volker, Stephan C.	D-WINN	I-WINN	742
Individual		Voorhees, Julia Catherine	D-VOOR	I-VOOR	798
Individual		Wade, Russ	D-WADE	I-WADE	802
Individual		Wagner, Margret and Fritz Greiner	D-WAGN	I-WAGN	803
Individual		Walicki, Joe	D-WALI	I-TOSS	804
Individual		Waugh, Alan	D-WAUG	I-TOSS	806
Individual		Wells, Russell	D-WELL	I-WELL	808
Individual		Wilkins, Frank	D-WILK	I-WILK	810
Individual		Williams, Jeanette	D-WILLI	I-WILLI	811
Individual	Public Water News Service	Wilson, Burt	D-PWNS	I-PWNS	812
Individual		Wolf, Vuku	D-WOLF	I-MOSS1	813
Individual		Woodard, Jessica	D-WOODA	I-WOODA	815
Individual		Wrisley, Gregg	D-WRIS	I-TOSS	818
Individual		Yowell, Joyce	D-YOWE	I-TOSS	820

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D-NIEL Duplicate of E-NIEL

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California State Senate



SENATOR
JIM NIELSEN
FOURTH SENATE DISTRICT
REPUBLICAN CAUCUS WHIP

COMMITTEES
GOVERNMENTAL ORGANIZATION
VICE-CHAIR
BUDGET & FISCAL REVIEW
HEALTH
INSURANCE
VETERANS AFFAIRS

September 25, 2013

Ms. Katrina Chow, Project Manager
Bureau of Reclamation
2800 Cottage Way, MP-720
Sacramento, CA 95825-1898

Subject: Public comment regarding DEIS of Shasta Dam Raise

To whom it may concern:

I am writing to submit comments in regard to U.S. Bureau of Reclamation's (bureau) Draft Environmental Impact Statement (DEIS) on the Shasta Lake Water Resources Investigation (SLWRI) study examining the impacts of raising Shasta Dam. As a longtime supporter of increasing Northern California's surface water storage capacity, I appreciate that the bureau has laid out plans to raise this dam crest.

Inasmuch as the state's water needs continue to grow and the climate continues to be unpredictable, the bureau appropriately designates that a primary objective of increased surface water storage is to "increase supply and supply reliability for agriculture, municipal and industry, and to help meet current and future water demands." Raising the crest of the dam will provide a much-needed upgrade to a structure that, over its half-century lifespan, has seen the population it serves double from 20 million Californians to 38 million. Secondary goals that were necessarily identified by the bureau include improved water quality, flood management, expanded hydropower generation, and enhanced recreation.

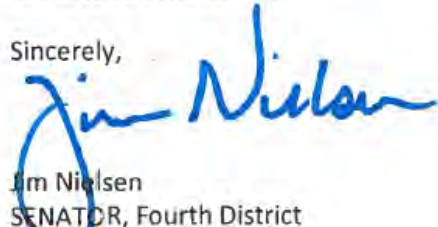
Of the five plans, three proposals (Comprehensive Plans 3, 4 and 5) call for a maximum 18.5 foot raise of the crest—which would effect a full pool increase of 20.5 feet and a capacity increase of 634,000 acre-feet. I am encouraged that the SLWRI found that an 18.5 foot raise would be "economically justified" and achievable, although each proposal has a different main focuses—some of which are more critical to the benefit of our state. While CPs 3, 4 and 5 do address the "secondary planning objectives," it is only CP3 which addresses agricultural water supply reliability as a key point of "focus." Unfortunately, CP3 does not boost water reserves for municipal and industrial (M&I) deliveries; M&I reserves for dry years are necessarily accounted for in CP5. Those are both objectives I would like to see met in the official proposal.

Additionally, it is my hope that the official proposal will expand findings on the process for managing the effect on private property holdings; in instances when eminent domain is applied, there must be assurances that property owners are properly compensated (taking into account all related expenses accrued, even those not necessarily required under state law, such as moving costs). I am also concerned about the impact on the existing marinas, boat ramps, resorts, campgrounds and trails; I would like to see further exploration of the impact on recreational fixtures and use along the lake. Similarly, the final proposal should include procedures for relocating local roads and bridges.

I am pleased that the bureau is considering the dam expansion. I believe that this undertaking is an investment that will provide gains far exceeding the \$1.2 billion price tag. The extra water storage capacity would advantage Californians statewide, from urban water users to farmers to ratepayers benefitting from increased hydroelectric generation. And while our state needs even more surface water storage than is accounted for by this proposal, this is a realistic first step.

Thank you for your consideration of my comments. If you have any questions about this matter, do not hesitate to contact me.

Sincerely,



Jim Nielsen
SENATOR, Fourth District

Federal Agency

D-WAPA Duplicate of F-WAPA



Department of Energy
Western Area Power Administration
Sierra Nevada Region
114 Parkshore Drive
Folsom, California 95630-4710

SEP 27 2013

Ms. Katrina Chow
Project Manager
Planning Division
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95258

Dear Ms. Chow:

Western Area Power Administration (Western) appreciates the opportunity to review Reclamation's draft environmental impact statement for the proposed Shasta Lake Water Resources Investigation and is transmitting the following comments.

In general, at this point in the study process, Western believes that there are too many uncertainties in a number of other ongoing parallel, but inter-related regulatory processes to be able to provide as definitive comments as we'd like on the anticipated outcomes of each alternative future scenario identified in this study. Specifically, the economic and financial feasibility (especially from a cost allocation and repayment ability on the part of the reimbursable project beneficiaries) is going to be especially important in determining the ultimate feasibility of the project.

Western believes that reduced project accomplishments and increased costs associated with additional regulatory and environmental oversight, resulting in reduced project water accomplishments, have significantly eroded the historic margin between the cost of service and market prices for the Federal hydropower product.

A recent Department of Interior Inspector General's audit (Report No. WR-EV-BOR-0003-2012 released March 2013) indicated that the irrigation function for the Central Valley Project is currently not on track to fully recover its share of the allocated capital investment costs by the year 2030. The Inspector General found that, if Reclamation was unable to undertake the necessary corrective actions to the rates in a timely manner, the "increases to water contractors could create the potential for rates to exceed irrigation contractors' ability to pay and shift the repayment requirement to power users." If not corrected, and assuming current trends, the projected shortfall could range from a low of \$330 million to a high of \$390 million. Should this situation be allowed to occur, the overall economic and financial viability of the base Central Valley Project, notwithstanding any new project addition, could be significantly impacted more adversely than what is being assumed in this study.

The California State Water Resources Control Board (SWRCB) is actively considering new water flow standards in the Sacramento and San Joaquin River systems which when applied to this effort, could also impact not only the timing and reliability, but also the anticipated water and hydropower accomplishments of any proposed dam modification. A final decision in this process will undoubtedly impact the project's water and hydropower accomplishments. Depending on what flow standard is ultimately adopted by the SWRCB, it may be possible that some of the underlying assumptions used to generate the water and hydropower outputs for this study may need to be revisited and/or revised.

Additionally, Reclamation is currently in the process of reallocating the costs of the "Base" Central Valley Project facilities. The outcome of this effort could potentially affect not only the costs assigned to each authorized project purpose, but in addition, with respect to the power function, have an impact on financial feasibility since Reclamation law allows for the reassignment of any capital investment costs which are beyond the ability of the irrigators to repay to be reassigned for repayment to the preference power customers. Consequently, integrating any new costs associated with this new increment block, especially, if a potential for an irrigation cost reassignment opportunity exists, could add additional new financial burdens on the existing preference power customer base.

Coupled with increased environmental regulatory oversight on the project (e.g., consultation on a new biological opinion, implementation activities associated with the San Joaquin River Restoration Program, the Central Valley Project Improvement Act implementation activities, bypass releases, as well as other Endangered Species Act consultations), it is more likely than not, that in the future, water and hydropower accomplishments for the project, even given this new project addition, will decrease, impacting the price competitiveness of the Federal hydropower product, as the per unit cost of the water and hydropower product from the project could increase.

We noted with some interest that the report stated that existing hydropower facilities would need to be modified in order to enable them to continue to be able to take full advantage of the increased hydropower generation capability associated with each proposed project enlargement alternative.

We understand the desire of Reclamation to move forward. However, as Reclamation finalizes its feasibility report and moves to the next step in the process, Reclamation may want to consider revisiting the various future alternatives to ensure that the assumptions used in the analysis continue to make sense, are still relevant, and are consistent with any real-time changes which may be occurring in any ongoing parallel regulatory processes.

Particular attention may need to be paid to the economic and financial feasibility aspects of the project, as projected accomplishments are going to drive the ultimate decision as to whether to proceed with the project.

The viability of the project is contingent on project accomplishments and are going to be highly correlated to the various outcomes of the ongoing parallel processes that are currently underway. Consequently, when re-estimating benefit-cost ratios and attendant cost allocation and financial repayment responsibilities, Reclamation needs to ensure that it either has established a realistic environmental baseline on which to assess impacts, or in the alternative, to ensure that the baseline continues to make sense if a decision is made to move forward with this project.

Thank you for the opportunity to provide comments. We look forward to continuing to work and provide comments on your work products in the future.

Sincerely,

A handwritten signature in black ink that reads "Sonja A. Anderson". The signature is written in a cursive, flowing style.

Sonja Anderson
Power Marketing Manager

D-EPA Duplicate of F-EPA



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

SEP 30 2013

David Murillo, Regional Director
Bureau of Reclamation, Mid-Pacific Region
2800 Cottage Way, MP-700
Sacramento, CA 95825

Subject: Draft Environmental Impact Statement for Shasta Lake Water Resources Investigation,
California (CEQ# 20130196)

Dear Mr. Murillo:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the Shasta Lake Water Resources Investigation. Our comments are provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

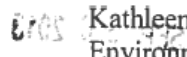
As a crucial storage facility for the Central Valley Project, Shasta Lake is a vital part of California's water supply and economy, and a major influence on the beneficial uses of the Sacramento River. We are aware that Bureau of Reclamation has pursued feasibility studies regarding the enlargement of Shasta dam and reservoir as part of CALFED planning efforts and pursuant to several public laws since 1980. The Draft EIS evaluates five action alternatives that vary in terms of the height of the dam raise and the allocation of the additional water storage among various beneficial uses. We understand that Reclamation plans to identify a preferred alternative in the Final EIS.

Based on our review of the Draft EIS, we have rated all the Action Alternatives and the document as Environmental Concerns – Insufficient Information (EC-2). Please see the enclosed "*Summary of EPA Rating Definitions*". Our detailed comments and recommendations are enclosed. We recommend including aquatic habitat enhancements as elements of each project alternative, rather than as elements of only two alternatives. Augmenting spawning gravel and restoring aquatic habitat may benefit species as a cost-effectively and efficiently as controlling water temperature. We also recommend additional mitigation measures such as construction and operation of more advanced wastewater treatment plants, assistance with remedial efforts at abandoned mines, and watershed protection and enhancement projects that focus on reducing chronic sources of sediment.

EPA appreciates the opportunity to provide input on this project. We are available to discuss all recommendations provided. When the Final EIS is released for public review, please send one hard copy and one CD to the address above (Mail Code: CED-2). If you have any questions, please contact me at 415-972-3521, or contact Stephanie Skophammer, the lead reviewer for this project. Stephanie can be reached at 415-972-3098 or skophammer.stephanie@epa.gov.

Sincerely,



 Kathleen Martyn Goforth, Manager
Environmental Review Office
Communities and Ecosystems Division

Enclosures: Summary of EPA Rating Definitions
Detailed Comments

cc: Katrina Chow, Bureau of Reclamation
Rocky Montgomery, U.S. Fish and Wildlife Service
Maria Rea, National Marine Fisheries Service
Patricia Bratcher, California Department of Fish and Wildlife
Philip Woodward, Central Valley Regional Water Quality Control Board
Kathy Mrowka, Central Valley Regional Water Quality Control Board
Michael Nepstad, U.S. Army Corps of Engineers

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

**U.S. EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR SHASTA
WATER RESOURCES INVESTIGATION, CALIFORNIA SEPTEMBER 30, 2013**

Alternatives

The Bureau of Reclamation evaluates five alternatives for raising Shasta Dam to various heights with the additional storage being allocated for agricultural uses, municipal and industrial uses, anadromous fish uses, or some combination thereof. The purpose and need for the project is to improve operational flexibility of the Delta watershed system by modifying the existing Shasta Dam and Reservoir to meet specified objectives. These dual objectives include, among others, increasing survival of anadromous fish and increasing water supply reliability. A suite of management measures common to all the alternatives includes modifying the temperature control device, reducing demand by allocating funds for water conservation efforts, and enlarging the cold-water pool (p. 2-24).

The Draft EIS states that the primary objectives are given equal priority (p. 2-5). All alternatives provide increased water supply reliability, and this screening criterion removed many alternatives from further consideration (see Scenarios Considered but Dismissed on page 2-99). We note, however, that only Alternatives CP4 and CP5 include aquatic habitat enhancements, such as augmenting spawning gravel and restoring riparian, floodplain, and side channel habitat - activities that may benefit the listed fish species in the most effective and cost-effective way other than controlling water temperature. It is not clear why these measures were not included in all the alternatives, as they would help to meet the objective of increasing the survival of anadromous fish, independent of dam augmentation.

Recommendation:

Consider including aquatic habitat enhancements for fish, such as those included in Alternatives CP4 and CP5, as part of all the alternatives. In addition to those already included in Alternatives CP4 and CP5, consider incorporating into all of the alternatives other instream aquatic habitat enhancements, such as anchored complex woody debris structures or erosion resistant vegetation near the mouths of the tributaries.

Water Quality

The Draft EIS states that vegetation clearing, relocation of activities, and wave-related shoreline erosion all have the potential to have short-term and long-term sediment impacts. Shoreline processes, including constantly changing reservoir levels that vary month to month and year to year, would provide a constant mechanism by which soil in the new area of inundation could be eroded into the lake, resulting in elevated levels of suspended sediment and turbidity. The quantity of sediment may be on the scale of millions of cubic yards; however, the Draft EIS states that these impacts cannot be quantified because of the size of the lake and the number of variables that influence sediment transport. The Draft EIS indicates that the direct and indirect impacts to surface water quality, including increased turbidity, could be significant, but would be less than significant after mitigation (p. 7-81). It is not clear how this was determined. The document does not provide sufficient details regarding the mitigation to assess its effectiveness or likelihood of success (p. 7-279).

Hydrologic changes from increased storage and release of water from Shasta Lake have the potential for channel incision and bank erosion below the dam. This is caused by trapping sediment behind the dam and changes in the hydrograph and river stage that effectively lowers the base level of the tributaries. Raising the dam would allow more winter runoff storage which could lower the river stage below the dam during runoff events in the tributaries downstream, causing channel incision, loss of beneficial gravel, and bank erosion.

These impacts may affect the beneficial uses assigned to Shasta Lake and downstream in the Sacramento River. These beneficial uses include drinking water supply, freshwater habitat, migration, and spawning. The Draft EIS does not provide specific mitigation measures related to water quality impacts that may occur as a result of the project. The only mitigation proposed is to prepare a Stormwater Pollution Prevention Plan and a remediation plan for historic mine features in the future.

Recommendation:

The Final EIS should provide a reasonable quantitative estimate of the sediment impacts expected from an enlargement of Shasta reservoir and disclose the likely results with regard to beneficial uses in the project area.

The Final EIS should explain how mitigation would lessen the impacts of erosion on water quality in the project area to less than significant. Mitigation actions that should be explored include construction and operation of more advanced wastewater treatment plants, assistance with remedial efforts at abandoned mines, and watershed protection and enhancement projects that focus on reducing chronic sources of sediment.

Endangered and Threatened Species

The US Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife, while not cooperating agencies, have been involved for many years and provided comments on feasibility reports and administrative drafts of the EIS. EPA understands that Reclamation intends to initiate consultation under the Endangered Species Act in the future but has not yet done so. On this note, EPA encourages Reclamation to continue to engage with the fish agencies to respond to the dual objectives, employ the best modeling, as well as provide appropriate mitigation for any adverse impacts to species. All of these issues should be addressed in the Final EIS.

SALMOD is the salmon production and mortality model used for the Shasta Enlargement EIS. SALMOD has significant limitations that are described in the appendix to the Draft EIS. For the benefit of the public and decision makers, these limitations should be discussed in more detail in the body of the Final EIS. For example, SALMOD is a comparative model, so any smolt increases should be described in a comparative fashion and the EIS should indicate that these are not firm population increases. SALMOD is not a life cycle model and it does not account for population trends over time nor how those trends may affect annual production. Additionally the Anadromous Fish Restoration Program has a goal of doubling salmon populations that has also been included in the Water Quality Control Plan as a water quality standard. The Final EIS should describe whether the actions of this project will have a significant impact on achieving this goal.

The Draft EIS indicates that a reduction in the magnitude, duration, or frequency of intermediate to large flows in the Sacramento River would occur as a result of a dam raise and that this is potentially significant (p. 11-269). Capturing more water in wet years would reduce peak flows, which are known to be highly beneficial to fish, as such flows activate floodplains and generally yield good recruitment years for anadromous fish. The reduction in flows in these years and the exposure of fish to more low water years (as some of the water is held in the reservoir and not released downstream) would likely have an adverse effect on juvenile salmonids and other species that rely on floodplain and bypass inundation for foraging. The mitigation proposed is to “develop and implement a mitigation and adaptive management plan to avoid and compensate the impact of altered flow regimes.”

Additionally, the anadromous fish benefits, as quantified in the Draft EIS, are minimal (i.e. winter run Chinook salmon Table 11-45 p. 11-285) and many of the impacts to these species are not quantified for clear comparison to the benefits.

Recommendations:

We urge Reclamation to coordinate with USFWS and NMFS on the timing of the Final EIS and the Biological Opinions. The Final EIS should provide an update on the consultation process. We strongly recommend including the Biological Opinion as an appendix.

Continue to consult with USFWS, NMFS, and CDFW to develop appropriate mitigation strategies to minimize the severity of the impacts of reduced peak flows. Mitigation and monitoring measures that would protect sensitive biological resources, including salmon, Shasta snow wren, bald eagle, and others should be identified in the Final EIS. Flow regimes should be developed that promote natural geomorphic processes necessary to restore riparian and floodplain habitat with the least negative effects.

The limitations of SALMOD should be more clearly stated and potential benefits of the dam enlargement should be accurately acknowledged in the context of all Reasonable and Prudent Measures, Salmon Recovery Program and the Salmon Doubling Goal considered by the fish agencies.

The negative impacts of modifying the hydrology such that there are fewer high flow events should be weighed against the benefits of increasing the cold water pool for anadromous fish and Delta smelt. It is unclear whether the proposed project has a net benefit or adverse impact to threatened and endangered anadromous fish.

The Final EIS should assess the actual impacts to fish, alongside the benefits, to generate a cumulative impact from the negative and positive impacts. For example, the benefits to anadromous fish are limited to a few critical and dry years.

Analysis of impacts should not conclude that, if the impact is greater than a 5% change but is still below the standard, there is no significant impact (e.g. Old Middle River and X2 Delta outflow standard). Scientific research has shown that these physical factors are highly correlated with aquatic life impacts.

National Historic Preservation Act

The Draft EIS states that hundreds of prehistoric resources, ancestral villages, sacred lands, and traditional cultural properties will be inundated or otherwise affected by a raise in Shasta dam and reservoir (p. 14-23). Consultation for tribal cultural resources is required under Section 106 of NHPA. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, to consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO). Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Recommendation:

The Final EIS should discuss how Reclamation would avoid or minimize adverse effects on the physical integrity, accessibility, or use of cultural resources in the area. The Final EIS should

discuss how Reclamation plans to fulfill its obligations under NHPA, including any future tribal consultation.

Wetland Impacts and Mitigation

The Draft EIS states that approximately 51 acres of wetlands would occur in the impoundment and relocation areas, but that all information regarding jurisdictional waters is just preliminary (p. 12-65). It is unclear how many acres exist currently and whether any of these acreage values are based on a US Army Corps of Engineers-verified jurisdictional delineation.

The Draft EIS is inconsistent in its discussion of mitigation for wetland impacts. For example, specific Best Management Practices (BMPs) and other measures to reduce temporary construction-related impacts to “less than significant levels,” are described, while mitigation for permanent wetland losses is not as clearly addressed (p.12-179). A CWA Section 404 permit may be needed for this project. Unavoidable impacts to wetlands must be fully mitigated pursuant to Section 404 requirements. Note that mitigation should compensate for both permanent losses, and residual temporal losses following application of construction BMPs.

Recommendations:

EPA encourages integration of the NEPA and CWA Section 404 permitting process to reduce overall project review timelines and to provide more thorough analysis of potential aquatic resource impacts through the NEPA process. Although detailed wetland delineations may not be available until later in the CWA Section 404 permitting process, we recommend that the Final EIS disclose the expected acreage of both permanent (drawdown-related) and temporary (construction-related) wetland losses, as well as the basis for the wetland loss estimates. If estimates are not based on a Corps-verified jurisdictional delineation, the Final EIS should note that these estimates are preliminary and will be revisited in more detail during the Section 404 permitting phase using standard Corps protocols.

Ecosystem functions provided by the specific wetland areas that could be lost should be discussed, and measures that could mitigate such impacts should be identified. The Final EIS should depict the probable areas of wetland loss on maps.

Delete the section on page 3-47 that describes the MOU for the CALFED process and Section 404 permit decision. Any CWA Section 404 analysis that would occur as part of this project will need a new permit application and would not be tiered from the CALFED 2000 ROD.

Feasibility Reports

The Draft EIS states that Federal and State Feasibility Reports have been developed to provide detailed information on the potential project benefits and costs, the allocation of costs to potential project beneficiaries, and project participants. The identification of final project participants and beneficiaries and potential benefits and costs will influence the selection of the preferred alternative in the Final EIS.

Recommendation:

To ensure full public disclosure to support decision-making, we recommend that the conclusions of the Federal and State Feasibility Reports be summarized in the body of the Final EIS, and the Reports be included as appendices in the Final EIS.

D-USACE Duplicate of F-USACE



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO CA 95814-2922

September 25, 2013

Regulatory Division SPK-2011-00667

Ms. Michelle Denning
U.S. Bureau of Reclamation
2800 Cottage Way
Sacramento, California 95825-1898

Dear Ms. Denning:

We are responding to your June 25, 2013, request for comments on the Draft Environmental Impact Statement (DEIS) for the Shasta Lake Water Resource Investigation (SLWRI). The Corps has reviewed the DEIS and requests that the following comments and recommendations be incorporated into the document.

The Corps of Engineers' jurisdiction within the study area is under the authority of Section 404 of the Clean Water Act for the discharge of dredged or fill material into waters of the United States. Waters of the United States include, but are not limited to, rivers, perennial or intermittent streams, lakes, ponds, wetlands, vernal pools, marshes, wet meadows, and seeps. Project features that result in the discharge of dredged or fill material into waters of the United States will require Department of the Army authorization prior to starting work.

The stated project purpose in the DEIS is, "to improve operational flexibility of the Delta watershed system through modifying the existing Shasta Dam and Reservoir to meet specified primary and secondary project objectives." However, the operational flexibility appears to be the need and is achieved through the real project purpose of water storage. The project purpose in the DEIS seems to predispose the only way to accomplish this is to raise Shasta Dam. By limiting the project alternatives considered to only the raising of Shasta Dam unnecessarily constrains the range of alternatives that must be considered under the Clean Water Act.

The range of alternatives considered for this project should include alternatives that avoid impacts to wetlands or other waters of the United States. The DEIS alternatives analysis should incorporate the requirements of the 404(b)(1) guidelines in order for the Corps to be able to utilize the analysis for permitting under Section 404 of the CWA.

EPA's 404(b)(1) guidelines (40 CFR 230.10) state that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impacts to the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences. An alternative is considered practicable if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose. To comply with these guidelines the Corps can only issue a permit for the least environmentally damaging practicable alternative (LEDPA).

Additionally, in the Section 12.3.5 covering Mitigation Measures, the DEIS states that "when feasible jurisdictional waters of the United States would be avoided." The term "when feasible" as it pertains to avoidance and minimization of impacts to waters of the United States, should be eliminated from the document. The USEPA's 404(b)(1) guidelines and the 1990 MOU between the Corps and USEPA,

-2-

require that impacts to waters of the United States must be avoided and minimized to the maximum extent practicable in order to comply with the Clean Water Act.

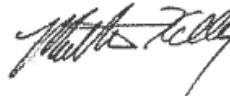
Based on our review of the DEIS it appears the delineation of waters of the United States that will be affected by the raising of Shasta Dam is only partially complete. As we commented during review of the Administrative Draft of the DEIS the investigations should be completed and provided to the Corps for verification. The DEIS stated the investigations will be completed and included in the FEIS. The delineation of waters of the United States should be completed and included in the DEIS so that the documents can be adequately reviewed by both the agencies and the public as part of the NEPA review process. The delineation should not be provided as new information the FEIS. Without the completed reports included in the DEIS the document's assessment of impacts to waters of the United States as a result of the proposed project are incomplete.

The DEIS identifies that at this time there have been no mitigation measures developed to mitigate for the loss of waters of the United States as a result of this project. The DEIS states that additional discussion of mitigation for the loss of waters of the United States will be included in the FEIS. As we commented in our review of the Administrative DEIS, at a minimum a conceptual mitigation proposal to off-set impacts to waters of the United States should be developed and included in the DEIS. This information should be available for the agencies and public review and comment. Without at least a conceptual plan we are unable to evaluate if mitigation for the loss of waters of the U.S. is even possible or if the mitigation itself may have impacts that should be considered in the DEIS. The mitigation proposal should not be provided as new information in the FEIS.

At this time unless the DEIS is revised to incorporate the above recommendations and changes, it does not appear that the Corps will be able to sign the Record of Decision and adopt the SLWRI FEIS for our permit requirements.

Please refer to identification number SPK-2011-00667 in any correspondence concerning this project. If you have any questions, please contact me at the Redding Regulatory Office, 310 Hemsted Drive, Suite 310, Redding, California 96002, by email at Matthew.P.Kelley@usace.army.mil, or telephone at 530-223-9534. For more information regarding our program, please visit our website at www.spk.usace.army.mil/Missions/Regulatory.aspx.

Sincerely,



Matthew P. Kelley
Senior Project Manager

cc:

Ms. Katrina Chow, U.S. Bureau of Reclamation, 2800 Cottage Way, Sacramento, California 95825-1898
Mr. Jason Brush, U.S. Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San Francisco, California 94105-3901
Ms. Stephanie Skophammer, U.S. Environmental Protection Agency, WRT-8, 75 Hawthorne Street, San Francisco, California 94105-3901

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

D-USFS2 Duplicate of F-USFS2

Shasta Lake Water Resources Investigation DEIS Comment Form - Version July 2013									
Reviewer Name:	Virginia Beres	Julie Kierstead Nelson	Cindy Luzzi	Nathan Rezeau					
Reviewer Email:	vberes@fs.fed.us	jknelson@fs.fed.us	cluzzi@fs.fed.us	nrezeau@fs.fed.us					
Reviewer Agency:	Forest Service	Forest Service	Forest Service	Forest Service					
Reviewer Mailing Address:									
Date:	Sept 26, 2013	Sept. 20, 2013	Sept 12, 2013	Sept. 29, 2013					
ITEM	REVIEWER	CHAPTER TITLE	CH #	PG #	Line #	TEXT	COMMENT		
1	vberes	Land Use	17	5	6	Lakeview	Lakeview Marina is gone. The entire document should be search for this marina to ensure all references have been removed.		
2	vberes	Land Use	17	5	9	the STNF to decommission Digger Bay and construct a new marina at Turntable	Is this why the "windows" plates show Digger Bay as slated for abandonment? I don't believe Digger Bay is to be abandoned.		
3	vberes	Land Use	17	5	17	USFS operates recreation residential tracts at Salt Creek...	The USGS map may spell Didallas Creek "Didallas" but the recreation tract is spelled "DIDALLIS". Didallas Creek Bridge can remain but a search and replace should be done for the recreation residence tract spelling.		
4	vberes	Alternatives	2	80		Figure 2-5. Table 5-3 "Turntable Bay"	Digger Bay is not slated for abandonment Any new development at Turntable Bay might not be called Turntable Bay Marina as an existing business may be relocated there. Also "Developments" should not be capitalized.		
5	vberes	Summary	0	108		Table 19-3 "Turntable Bay Marina"	Any new development at Turntable Bay might not be called Turntable Bay Marina as an existing business may be relocated there. Also "Developments" should not be capitalized.		
6	vberes	Aesthetics	19	93		Plate 39	Digger Bay Marina is not slated for abandonment		
7	vberes	Engineering Appendix Plates		39		Decisions about whether individual affected facilities would be modified or relocated would be addressed in conjunction with USFS, based on overall effects on the features of individual facilities as well as operational needs. Some relocated facilities may be consolidated within other existing facilities, rather than being relocated at a currently undeveloped area. All plans for replacing of facilities would be evaluated and approved by USFS.	Facility consolidation will only be considered after all feasible undeveloped relocation sites have been considered.		
8	vberes	Engineering Appendix		34	7				

Shasta Lake Water Resources Investigation DEIS Comment Form - Version July 2013						
Reviewer Name:	Virginia Beres	Julie Kierstead Nelson	Cindy Luzietti	Nathan Rezeau		
Reviewer Email:	vberes@fs.fed.us	jknelson@fs.fed.us	cluzietti@fs.fed.us	nrezeau@fs.fed.us		
Reviewer Agency:	Forest Service	Forest Service	Forest Service	Forest Service		
Reviewer Mailing Address:						
Date:	Sept 26, 2013	Sept 20, 2013	Sept 12, 2013	Sept 29, 2013		
ITEM	REVIEWER	CHAPTER TITLE	CH #	PG #	Line #	COMMENT
9	vberes	Engineering Appendix		33	14	Where is the large chart that Reclamation, MWH and the FS worked on that showed what recreation facilities are affected and the proposed action for them? The draft document we have doesn't have a title but one of the row headers is titled "Shasta Recreation Facilities -- Basis for 18.5 Cost Estimate" and the footer states that it is for discussion purposes only, do not distribute.
10	vberes		18	5		This is the only reference to Kamloops Camp in draft (not in the "windows" plates either. This camp, under FS special use permit, is located on FS lands and will be highly impacted by the PA and needs to be addressed as an impacted facility. This was an oversight.
11	JK Nelson	Botanical Resources & Wetlands/Surv	12	33	16	Updated Region 5 USFS Sensitive Species list was released in July, and effective Aug. 16, 2013; EIS & Botany Technical Report will need editing to reflect changes to USFS status.
12	JK Nelson	Table 12.3 Plant Species of Concern	12	34		please add that it is also USFS S
13	JK Nelson	Table 12.3 Plant Species of Concern	12	34		no longer USFS S
14	JK Nelson	Table 12.3 Plant Species of Concern	12	34		no longer USFS S
15	JK Nelson	Table 12.3 Plant Species of Concern	12	34		add to table--currently being ranked. Known to occur in project area
16	JK Nelson	Botanical Resources & Wetlands/Surv	12	76	31	Settlement agreement was voided; Survey & Manage program has reverted to 2001 ROD standards & guidelines

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Shasta Lake Water Resources Investigation DEIS Comment Form - Version July 2013									
Reviewer Name:	Virginia Beres	Julie Kierstead Nelson	Cindy Luzietti	Nathan Rezeau					
Reviewer Email:	vberes@fs.fed.us	jknelson@fs.fed.us	cluzietti@fs.fed.us	nrezeau@fs.fed.us					
Reviewer Agency:	Forest Service	Forest Service	Forest Service	Forest Service					
Reviewer Mailing Address:									
Date:	Sept 26, 2013	Sept 20, 2013	Sept 12, 2013	Sept 29, 2013					
ITEM	REVIEWER	CHAPTER TITLE	CH #	PG #	Line #	TEXT	COMMENT		
17	cluzietti	Land Use	17	2	17	Late Successional Reserve	It is misleading to label as just LSR since the Land Allocation is called "Late-Successional Reserves, Managed Late-Successional Areas, and other Threatened, Endangered, or Sensitive Species" in the Forest Plan, and the areas in the Shasta Unit of the NRA were designated for bald eagles and peregrine falcon, and do not contain habitat for late-successional and old-growth related species?		
18	cluzietti	Land Use	17	2	30	STNF LRMP direction for administratively withdrawn area.....	if you are quoting this from page 4-112 of the LRMP, it applies to all allocations of the Shasta Unit NRA not just Administratively Withdrawn, and does NOT apply to all of the STNF as this sentence says.		
19	cluzietti	Land Use	17	5	16	operates	change to "manages"		
20	cluzietti	Land Use	17	5	28	There are five claims in the NRA....	There were more than 5 claims that predated the withdrawal when the NRA was created. Are you saying there are 5 claims that are still active? I don't believe that are any claims that are active in the NRA anymore--would you be able to give us the locations of these 5 claims?		
21	cluzietti	Land Use	17	5	32	36 CFR	This is NOT in 36 CFR, it is in 43 CFR.		
22	cluzietti	Land Use	17	5	30	operating plans	operating plans are required under the regs for locatable minerals (36CFR228 Subpart A) not leaseable		
23	cluzietti	Land Use	17	8	19	Chapple-Shasta	The BLM manages all of the Chapple-Shasta OHV Area.		

Shasta Lake Water Resources Investigation DEIS Comment Form - Version July 2013									
Reviewer Name:		Virginia Beres	Julie Kierstead Nelson		Cindy Luzietti		Nathan Rezeau		
Reviewer Email:		vberes@fs.fed.us	jknelson@fs.fed.us		cluzietti@fs.fed.us		nrezeau@fs.fed.us		
Reviewer Agency:		Forest Service	Forest Service		Forest Service		Forest Service		
Reviewer Mailing Address:									
Date:		Sept 26, 2013	CH #	PG #	Line #	TEXT	Sept. 29, 2013		
REVIEWER		CHAPTER TITLE	CH #	PG #	Line #	TEXT	COMMENT		
24	cluzietti	Land Use	17	9	5	land ownership adjustments	If you are going to use this goal you need to include the information on page 4-19 of the Forest Plan which speaks to land ownership adjustments in the NRA (the desired future condition is clarified by the Standards and Guidelines) and the resource objectives that land ownership adjustments are supposed to support. "Within and adjacent to the NRA acquire available, undeveloped private lands needed to fulfill the management goals and objectives of the recreation resource program. Acquire those parcels of land that are specifically needed: (a) for public development; (b) to protect major visual resource values; (c) to protect prime wildlife habitat; and (d) to preserve important cultural values and make them available for public enjoyment."		
25	cluzietti	Land Use	17	9	25	Provide special management for late successional reserves.....	Add "Late-Successional Reserves and Threatened, Endangered, and Selected Sensitive Species" at front of sentence as that is the name of the management prescription. You have the management prescription title under all the other land allocations.		
26	cluzietti	Land Use	17	29	26	It should be noted that even where site specific.....	Every project or activity must be consistent with the applicable plan components. Determining consistency and resolving inconsistency is found in		
27	Nrezeau	Recreation	18	66	8, 18, 19	recreation residence would be affected	A survey for recreation residence structures is recommended, similar to what was done for the Lakehead community, so that impacts to recreation residences can be refined.		
28	Nrezeau	Recreation	18	Tables 18-3 and 18-8		Campgrounds	Mariners Point Campground is not listed in any of the impacts tables. Mariner's Point is a developed campground, unlike the other shoreline campgrounds, that will be impacted by inundation and should be listed as impacted.		

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Shasta Lake Water Resources Investigation DEIS Comment Form - Version July 2013									
Reviewer Name:	Virginia Beres	Julie Kierstead Nelson	Cindy Luzietti	Nathan Rezeau					
Reviewer Email:	vberes@fs.fed.us	jknelson@fs.fed.us	cluzietti@fs.fed.us	nrezeau@fs.fed.us					
Reviewer Agency:	Forest Service	Forest Service	Forest Service	Forest Service					
Reviewer Mailing Address:									
Date:	Sept. 26, 2013	Sept. 20, 2013	Sept. 12, 2013	Sept. 29, 2013					
ITEM	REVIEWER	CHAPTER TITLE	CH #	PG #	Line #	TEXT	COMMENT		
29	Nrezeau	Alternatives, & Engineering Appendix 2 & Eng App.		73	Table 2-10	Lakeshore Drive	Due to significant community interest from private residents and business owners, it is recommended that a proposed/ conceptual plan for the realignment of Lakeshore Drive be included as an Engineering Appendix Plate.		
30	Nrezeau	Aesthetics and Visual Resources	19	4	20	there are 10 marinas on Shasta Lake	There are 9 not 10 marinas on Shasta Lake. Please correct to 9 marinas.		

Tribe

D-UAICAR Duplicate of T-UAICAR

Shasta Lake Draft EIS

Inbox x

Marcos Guerrero <mguerrero@aubumrancheria.com>

Aug 19 (2 days ago) ★



to me: [redacted]

Hello Ms. Chow,

In order to accurately assess the potential for your project to impact Native American resources I would like to take a look at the cultural resources inventory and management reports. This includes any survey, evaluation, or mitigation reports, include but not limited to PAs, MOA, HPTs, and HPMPs.

Thanks you for your patience,

With respect,

Marcos Guerrero, RPA, THPO
Cultural Resources Manager
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603
Office: (530) 883-2364
Cell: (916) 300-8792
Fax: (530) 885-5476

Nothing in this e-mail is intended to constitute an electronic signature for purposes of the Electronic Signatures in Global and National Commerce Act (E-Sign Act), 15, U.S.C. §§ 7001 to 7006 or the Uniform Electronic Transactions Act of any state or the federal government unless a specific statement to the contrary is included in this e-mail.

State Agency

D-DFW Duplicate of S-DFW

Attachment 3 Shasta Lake Water Resources Investigation Draft Environmental Impact Statement - June 2013 Wildlife Resources Technical Report Comments						
Reviewer Name:	Jennifer Carlson, Patricia Bratcher, and Richard Us					
Reviewer Email:	Patricia.Bratcher@wildlife.ca.gov ; Richard.Us@wildlife.ca.gov					
Reviewer Agency:	CDFW					
Reviewer Mailing:	601 Locust St., Redding, CA 96001					
Date:	August 2013					
ITEM	REVIEWER	CHAPTER TITLE	CHAPTER NUMBER	PAGE NUMBER	LINE NUMBER	TEXT
1	CDFW	Wildlife Resources Technical Report	1	1-5	15	The California Natural Diversity Database
2	CDFW	Wildlife Resources Technical Report	1	1-6	Table 1-1	Table 4-7 of the MSCS identifies vernal pools as a habitat type within the Natural Seasonal Wetland Habitat Type. Vernal pools occur within the primary study area (in and near Redding, for example) and should be included within this table.
3	CDFW	Wildlife Resources Technical Report	1	1-6	Table 1-1	There is very little description about what purpose Table 1-1 serves or how it will be used or interpreted. Clarification needed.
4	CDFW	Wildlife Resources Technical Report	1	1-9	Tables 1-2 and 1-3	These tables show summary of wildlife habitat in the impoundment area as well as the relocation areas. Does this also reflect the acres of habitat that would be inundated? If so, specifying that would be helpful because it is not evident to me. It would be useful to include a total acreage value by habitat type. The totals of acres by lake arms isn't all that useful from a wildlife perspective.
5	CDFW	Wildlife Resources Technical Report	1	1-11	Figure 1.2a	These maps are very hard to read due to the scale. Perhaps breaking up the maps into more sections and zooming in would be better. Shouldn't there be more "affected" habitat in the inundation zone that what is shown?
6	CDFW	Wildlife Resources Technical Report	1	1-30	15	The habitat section is very sparse in terms of details on this habitat type. Including a little more detail would be preferable including species occupying this habitat.
7	CDFW	Wildlife Resources Technical Report	1	1-38	Table 1-4	The potential for occurrence states that it is known to occur in the upper McCloud arm but does not specify if this is in the primary study area or not. Please clarify.
8	CDFW	Wildlife Resources Technical Report	1	1-41	37	Take and loss of Shasta salamander (SS) is discussed and known from 39 sites surveyed to date. The survey methods were not discussed in detail and the information about the size of the populations at the site is not given presented, thus it is not possible to calculate the actual take and loss of the SS. This species may be quite limited in its ability to migrate and thus the genetic diversity of the species throughout the study area should be investigated. There may be unique genetic populations dispersed within the impact area that would guide the design of mitigation options. It is likely that this species incurred significant habitat losses when Shasta Dam was built and filled. Further enlargement of the dam will cause further decline in the species habitat that needs to be estimated and included in full assessment of impacts to the species. SS habitat includes subterranean habitat to which access is important during the dry summer months. Therefore the inundation and destruction of habitat must account for the loss of subterranean habitat even if the water level does not completely submerge the habitat.
						All sites must be enumerated and sites that may be above full pool elevations must be identified as to whether subterranean habitat would be destroyed such that survival of the site is reduced or rendered impossible. These sites must also be included in mitigation calculations.

Shasta Lake Water Resources Investigation DEIS Comment Form--Wildlife Resources Technical Report									
Page 2									
9	CDFW	Wildlife Technical Report	1	1-41			Terrestrial Mollusks	Impacts to the terrestrial mollusks are presented in terms of CWHR habitats and acreage yet there is no discussion about the actual sites where these mollusks were located and what microhabitat conditions exist on site to allow their existence. These mollusks are not equally and evenly distributed across within the habitat of any of the habitat types. They will undoubtedly be found in varying distribution and abundance within and between habitats. Analysis of these variables is needed both to identify complete impacts to the species and for determination of complete mitigation. Additional discussion must include the range of each species and the fraction of destruction to the totality of known populations of each species. These species also would have incurred extirpation of populations with the original construction of Shasta Dam. Estimates of the original destruction of species and the likely remaining is needed to accurately assess the cumulative effects of proposed future actions. Additional analysis should include assessment of what limits may exist for each species.	
							Comment #9 cont'd	such as elevation, because certain species may not be able to exist at the same densities at higher elevations where temperatures and moisture would be subject to greater variation. All of this information is needed to develop complete and species specific mitigation plans.	
10	CDFW	Wildlife Resources Technical Report	1	1-67	16		Pacific fisher	The statement is made that the carnivore surveys and detections of fisher for this project are the southeastern-most occurrences. This is an untrue statement and needs to be removed. Fishers have been detected south of the Fountain Fire area. Detections were both on public and private land, south of Burney and north of Shingletown. Several detections of fisher have been recorded in this area.	
11	CDFW	Wildlife Resources Technical Report	1	1-68	Table 1-5	Table 1-5		The effects to this and other species needs to be re-evaluated once a project footprint is finalized. To date, the location of sites to be mined for minerals to create cement is not completed, nor are the footprint of relocated facilities, roads, etc. In addition, due to the potential change in water management (including CP4, which includes a dedicated pool for natural resource uses), the potential for effect is largely incomplete. Upon completion of the actual project footprint and management plan, this an other documents that assess effects to species and special habitats needs to be redone. Similarly, using water to manage for one species (e.g. winter-run Chinook) may have negative effects on another species (e.g. bank swallow). This also needs to be analyzed.	
12	CDFW	Wildlife Resources Technical Report	1	1-68	Table 1-5	Table 1-5, California Red-legged frog (CARLF)		For the CARLF, only protocol surveys can determine presence/absence as per ESA, so this determination is pre-decisional. Foothill yellow-legged frogs are know to occur in the valley section of tributaries on the west side of the Sacramento River, so this determination is wrong.	
13	CDFW	Wildlife Resources Technical Report	1	1-69	29	Swainson's Hawk		The species range of this species, as per DFW mapping websites, shows it extending up into the middle of Tehama County, which is just below Shasta County. In addition, migratory patterns should be taken into account, since this species is known to occur (nest) in the Klamath Basin.	
14	CDFW	Wildlife Resources Technical Report	1	1-107	25	Land Management		The BLM Land and Resource Management Plan for the Redding Field Office should also be included on this list. BLM manages land on Clear Creek and along the Sacramento River, in addition to inholdings near and/or around Shasta Lake. Similarly, the USFS Mendocino National Forest manages a piece of property adjacent to Red Bluff Diversion Dam. Reference to its Land Management Plan should also be included. Similarly, there are extensive areas of land managed along the River by the Department of Water Resources, the Department, and State Parks.	

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix[illegible]

Shasta Lake Water Resources Investigation DEIS Comment Form--Wildlife Resources Technical Report									
Page 3									
16	CDFW	Wildlife Resources Technical Report: Attachments 1-7	Attachment 2	A2-6		Purple martin	The statement is made that 14-51% of the known nesting colonies for purple martin is along the Shasta Lake shoreline. That seems like a significant part of the nesting habitat for a species that is state-listed Species of Special Concern.		
17	CDFW	Wildlife Resources Technical Report: Attachments 1-7	Attachment 2	A2-7		Shasta salamander	It is not Clear specified in the species life history, like for the other species, the extent of the locations or numbers of the shasta salamander detections. Please elaborate on the extent of the detections that would be inundated.		
18	CDFW	Wildlife Resources Technical Report: Attachments 1-7	Attachment 4	Attachment 5		General Comment	CNDDB should not be the only source of info to determine whether or not a species is present. It is only as good as what is reported by people. USFS records, Audubon studies, Christmas bird count data, and WHR should also be investigated to determine potential presence. I have personally seen black-crowned night herons in the Redding vicinity, and it is a species identified in the MSCS, as are several others below.		
19	CDFW	Wildlife Resources Technical Report: Attachments 1-7	Attachment 5	Attachment 5		State and Federal lists of Special-status wildlife species	The lists in the referenced attachment for both state and federal species are outdated. These lists expired in 2007, which is at least 4 years out of date. Please include an updated list within the last year.		
20	CDFW					General Comment	They have not adequately addressed the effects on wildlife as far as quantification of the effect and lack of detail on impacts.		
21	CDFW					General Comment	As far as I can tell, they have not adequately addressed the species in DFW's 2008 letter including: Shasta salamander, peregrine falcon, purple martin, bald eagle, and bank swallow. They did address additional species, i.e. deer range, but could include a map showing these special habitats that will be impacted.		
22	CDFW	General	Throughout			Maps	It would be easier to understand what is going on if the maps were not broken up into 10 different smaller maps. One large map would be more helpful when looking at the project at least for the Shasta Lake and vicinity area.		
23	CDFW	General	Throughout				The wildlife habitat description section could be improved. There are some major inconsistencies among the habitat types described as far as some that include species occupying the habitat, and others do not. Some of the habitat descriptions list the vegetation species that make up the habitat type and others do not. Habitat descriptions at a minimum should include an extensive description of what features make it the habitat it is.		
24	CDFW	Wildlife Resources Technical Report	General Comment			Shasta salamander	Take and loss of Shasta salamander is discussed and known from 39 sites surveyed to date. The survey methods were not discussed in detail, and the information about the size of the populations at the sites is not presented. Therefore, it is not possible to calculate the actual take and loss of the species.		
25	CDFW	Wildlife Resources Technical Report	General Comment			Shasta salamander	This species may be quite limited in its ability to migrate, so the genetic diversity of the species throughout the study area should be investigated. There may be unique genetic populations dispersed within the impact area that would guide the design of mitigation options. It is likely that this species incurred significant habitat losses when Shasta Dam was built and filled. Enlargement of the dam will cause further decline in the species habitat that needs to be estimated and included in full assessment of impacts to the species.		
26	CDFW	Wildlife Resources Technical Report	General Comment			Shasta salamander	Shasta salamander habitat includes subterranean habitat to which access is important during the dry summer months. Therefore, the inundation and destruction of habitat must account for the loss of subterranean habitat even if the water level does not completely submerge the habitat. All sites must be enumerated and sites that may be above full-pool elevations must be identified as to whether subterranean habitat would be destroyed such that survival of the site is reduced or rendered impossible. These sites must also be included in mitigation calculations.		

Shasta Lake Water Resources Investigation
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Page 4 Shasta Lake Water Resources Investigation DEIS Comment Form--Wildlife Resources Technical Report							
27	CDFW	Wildlife Resources Technical Report	General Comment			Peregrine Falcon	Effects to this species and other raptors were not clearly identified. This includes the potential for effect by construction-related impacts during the nesting season. Mitigation measures should include at least one preconstruction survey for this species within the disturbance area boundary and a buffer sufficient to address the potential for disturbance, as supported by scientific literature and/or in accepted peregrine falcon management plans. Clarification is needed on when this preconstruction survey would occur.
28	CDFW	Wildlife Resources Technical Report	General Comment			Bald Eagle	Although the bald eagle is no longer listed under ESA, it remains listed as Endangered pursuant to CESA. It is also a fully protected species pursuant to FGC Section 3511 and is provided protection pursuant to the federal Bald and Golden Eagle Protection Act (16 U.S.C. 668a-d). The FR, Technical Reports/Attachments, and future environmental documents need to fully analyze the effect of a loss of habitat and nest trees on individuals and on the population in general, and analyze the entire project footprint (primary study area and extended area combined) to make an overall determination of effects of the project on bald eagle.
29	CDFW	Wildlife Resources Technical Report	General Comment			Purple martin	Purple martin could be similarly affected by inundation. The total inundation of snags used by purple martin would result in a temporary, if not permanent, loss of nesting habitat for purple martin, although new habitat could eventually be created after trees are inundated and die. There are very few colonies within Shasta County; Shasta Reservoir represents 14% to 51% of the total interior Northern California population of western purple martin (Williams 1998). No mitigation seems to be proposed for the direct loss of nest trees that will be inundated by Alternatives CP1-CP5. If feasible, mitigation measures must be implemented to offset this impact (which is identified as significant).
30	CDFW	Wildlife Resources Technical Report	General Comment			Bank Swallow	The FR and Technical Reports/Attachments contain contradictions and relies upon improper information with regard to the potential impact on listed species. An example of this is the impact to the State-listed Threatened bank swallow (Riparia riparia). Use of monthly flow models cannot reflect the daily or hourly flow fluctuations caused by dam releases that can destroy a nesting colony. The 2008 Administrative Draft Environmental Impact Statement/Environmental Impact Report (ADEIS/IR) (Reclamation 2008) identified a potentially significant impact.
31	CDFW	Wildlife Resources Technical Report	General Comment			Bank Swallow	The Sacramento River is estimated to support about 75% of the State's bank swallow population (Garrison 1998). The Department considers the combination of a loss of high flows, which encourage bank erosion, and daily flow fluctuations caused by dam releases during nesting, a potentially significant impact.

Attachment 5 Shasta Lake Water Resources Investigation DEIS Comment Form- CDFW Version June 2013

CDFW Water Quality Technical Report Comments

Reviewer Name: Jeffrey Shu

Reviewer Email: jeffrey.shu@wildlife.ca.gov

Reviewer Agency: CA Dept. of Fish and Wildlife

Reviewer Mailing Address: 830 S Street., Sacramento, CA 95814

Date: Sept 2013

ITEM	REVIEWER	CHAPTER TITLE	CHAPTER NUMBER	PAGE NUMBER	LINE NUMBER	TEXT	COMMENT
1	CDFW	Water Quality Technical Report Abbreviations and Acronyms	0	iii	N/A	OCAP Operations and Criteria Plan	OCAP Operations, Criteria and Plan
2	CDFW	Water Quality Technical Report Abbreviations and Acronyms	0	iv	N/A	X2 estuarine habitat	X2 location of 2 psu salinity isohaline
3	CDFW	Water Quality Technical Report Chapter 1 Affected Environment	1	1-4		trace metals and heavy metals	To make it more clear that the same thing is being talk about throughout the document, the document should refer metals as either trace metals, heavy metals or simply "metals".
4	CDFW	Water Quality Technical Report Chapter 1 Affected Environment	1	1-4	41	The quality of water in the Sacramento River is relatively good.	There is no context what "relatively good" means. 2010 303(d) list say that the Sacramento River is impaired for unknown toxicity. CALFED 2000a states that acute toxicity from acidic drainage water from abandoned mine tailing have resulted in fish kills and contribute to long-term growth and reproduction impacts to fish.
5	CDFW	Water Quality Technical Report Chapter 1 Affected Environment	1	1-5	10	Table 1-1	The water quality objectives are still not correct per Table III-1 and Table III-2 from the 2009 Basin Plan. The footnote for the metal objectives should state they are measured as dissolved concentrations and are hardness-based criteria. Would be nice to cite data that is more current.
6	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-6	Table 1-1 footnote b	Basin Plan Water Quality Objective	The applicable Basin Plan objective for the Sacramento River at Red Bluff is what is described as "Sacramento River from Keswick Dam to Hamilton City". The dissolved oxygen objective from June 1st to August 31st for this specific water body is 9.0 mg/l. The dissolved oxygen saturation objective is 95% or above saturation when natural conditions are lower than 9.0 mg/l during the same time period.

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Page 2								SLWRI DEIS Comments by CDFW - Water Quality							
7	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-7	20-21	RBPP to Knights Landing is listed as an impaired water body under the EPA's Section 303(d) list for mercury and unknown toxicity.	The 2010 303(d) list for RBPP to Knights Landing now includes DDT, dieldrin, mercury, PCBs, and unknown toxicity.								
8	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-7	23-25	The parameters of concern in the Sacramento River from Knights Landing to the Delta include diazinon, mercury, and unknown sources of toxicity.	The 2010 303(d) list for Knights Landing to Delta now includes chlordane, DDT, dieldrin, mercury, PCBs, and unknown toxicity. It no longer includes diazinon. Also, it's not listed for "unknown sources of toxicity" although it does state the source of the unknown (water) toxicity is unknown.								
9	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-14	13-15	Table 1-2	The estimated area, if summing Horse Creek, Town Creek, and Little Backbone Creek, should add up to 2.38 miles, Shasta Lake is 27335 acres. If you are assessing potential pollutant sources to Shasta Lake, you should include Pit River which contributes sources of agricultural pollutants. The citation should be updated to SWRCB 2010.								
10	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-15	17	West Straw Creek	Typo. Should be "West Squaw Creek".								
11	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-16	12-18	CVRWQCB determination	This is an outdated determination. The 2010 303(d) list has removed cadmium, copper, and zinc as impairments but added unknown toxicity as an impairment of the upper Sacramento River between Keswick Dam and Cottonwood Creek. Only the upper Sacramento River between Cottonwood Creek and Red Bluff is listed for mercury as this was the part of the upper Sacramento River where fish tissue samples were collected.								
12	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-17	2	mercury (CVRWQCB 2002)	"chlordane, DDT, dieldrin, mercury, PCBs, and unknown toxicity (SWRCB 2010)."								

Page 3 SLWRI DEIS Comments by CDFW - Water Quality							
13	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-17	3-11	Delta waterways	<p>All of the Delta waterways, including the western Delta, fall under the CWRWQCB jurisdiction. There are also other pollutants of concern that impair the Delta waterways. There are no sources of mercury from agriculture; they are primarily from abandoned mines. Agriculture is the primary source of pesticide pollution. The Delta is also impaired by invasive species.</p> <p>Influences on the south Delta water quality should also include, tidal influences, island inundation, from operations of diversion facilities and water storage facilities, in addition to the mentioned sources in the previous sections. Selenium in the CVP/SWP Service Areas is affected by agricultural uses of groundwater which is then drained into the San Joaquin River. The document should be careful with interchanging the terms water quality with salinity. Also, not sure if this section is supposed to only discuss metal pollution or is to include pesticide and nutrient pollution.</p> <p>CALFED doesn't exist any more. The state legislation SB X7 1 enacted the Sacramento-San Joaquin Delta Reform Act of 2009 and replaced CALFED with new co-equal goals of more reliable water supply and a healthy ecosystem and new implementing agencies. The primary Delta planning agencies are the Delta Protection Commission, Sacramento-San Joaquin Delta Conservancy, and the Delta Stewardship Council. The Delta Stewardship Council's Delta Plan is the primary planning document. Delta Vision Strategic Plan is the framework for the planning documents and implementing Delta agencies.</p> <p>Other Delta documents include: o The Delta Protection Commission's Land Use and Resource Management Plan for the Primary Zone of the Delta ("RMP") o The Delta Protection Commission's Land Use and Resource Management Plan for the Primary Zone of the Delta ("RMP") o The 2012 Central Valley Flood Protection Plan ("CVFPP") o The 2011 Habitat Management, Preservation and Restoration Plan for the Suisun Marsh ("Suisun Marsh Plan"); and o The Suisun Marsh Preservation Act of 1977.</p>
14	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-17	12 CVP/SWP Service Areas		
15	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-23	4-13	Two agencies with key planning roles...	Comment 15 cont'd

Shasta Lake Water Resources Investigation
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Page 4 SLWRI DEIS Comments by CDFW - Water Quality						
16	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-25	34 control of nonpoint source pollution	Should be "control of point source pollution". Runoff from construction and industrial activities is classified as a point source as the discharge goes into a storm drain or man-made ditch that discharges to a water body. These activities require a 402 NPDES permit. If the activity moved dredge or fill material into a water of this US, it would require a 404 permit and 401 certification. A 401 certification would be required regardless of dredge or fill, as long as a project has hydromodification impacts or modification to a FERC hydropower facility, which would be the primary result of this project.
17	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-28	18-19	The most prevalent contaminants in the Sacramento River basin are pesticides (agricultural runoff) and trace metals (acid mine drainage), for which TMDLs currently are being considered.
18	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-32	6 September 2009	The Upper Sacramento River TMDL for Metals has been in place since April 2002 and some contaminants have been removed from the 303(d) list. The Sacramento and Feather Rivers TMDL for diazinon and chlorpyrifos (organophosphate pesticides) has been in place since August 2008. Last revision was October 2011 http://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr.pdf
19	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-32	15-31	Should make the beneficial uses terms consistent between the two water bodies to make the list of uses more comparable. Shasta Lake is: municipal and domestic supply, irrigation, hydropower generation, water contact recreation, noncontact recreation, freshwater habitat (warm and cold), spawning habitat (warm and cold), wildlife habitat Sacramento River is: municipal and domestic supply, irrigation and stock watering, industrial service supply, hydropower generation, water contact recreation and canoeing and rafting, noncontact recreation, freshwater habitat (warm and cold), migratory habitat (warm and cold), spawning habitat (warm and cold), wildlife habitat, navigation

SLWRI DEIS Comments by CDFW - Water Quality							
Page 5							
20	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-34	1-8	Primary Study Area	The 15-mile reach of the Sacramento River from Keswick Dam downstream to Cottonwood Creek is impaired for unknown toxicity. It is no longer impaired by cadmium, copper, and zinc. The 16-mile reach of the Sacramento River from Cottonwood Creek to Red Bluff is impaired by mercury and unknown toxicity. See comment 17.
21	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-34	9-16	Extended Study Area	The Sacramento River downstream from RBPP is impaired by DDT, dieldrin, mercury, PCBs, unknown toxicity, and chlordane. It is not impaired by diazinon.
22	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-34,35	26-40,1-27	beneficial use description	This section is essentially duplicative of page 1-32 lines 5-31 and page 1-33 lines 1-4 but with more detail.
23	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-34	28-29	The most recent edition, the fourth edition, was adopted in 1998 and amended in 2004.	"The most recent edition, the fourth edition, was adopted in 1998 and amended in 2011."
24	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-35,36	32-40,1-2	Clean Water Act Section 401 Water Quality Certification	This section cites Clean Water Act which is federal law and is already mentioned at page 1-25 lines 14-27. The more appropriate citation for state law would be Porter-Cologne Act and Chapter 28 Certifications. Under subsection 3855, applications for water quality certifications shall be filed with the State Water Board Executive Director, who will forward copies to the appropriate Regional Water Board Executive Officer.
25	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-36	3-8	Waste Discharge Permit	Under California law, waste discharge requirements (WDRs) are required for some discharges in addition to those subject to NPDES permits. Discharges, such as those affecting groundwater or in a diffused manner (e.g., erosion from soil disturbance or waste discharges to land), must file a Report of Waste Discharge with the Regional Water Board in order to obtain WDRs. The Regional Water Board may waive filing of a Report of Waste Discharge but once a report is filed it must either waive or adopt WDRs.

Shasta Lake Water Resources Investigation
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26	CDEW	Environment Chapter 1 affected Technical Report Water Quality	1	1-36	2-12	Pollution Prevention Plan General Permit: Storm Water Individual Discharge	Since these are part of NPDES permits they are better explained in the Federal section.
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Page 6 SLWRI DEIS Comments by CDFW - Water Quality							
27	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-37	3	Missing header	The paragraph starting on line 3 should have a header of "Water Right Decision 1275".
28	CDFW	Water Quality Technical Report Chapter 1 affected Environment	1	1-37	13	1995 Water Quality Control Plan	Explanation of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan should revolve around the current 2006 version which incorporates D-1541 as part of the implementation plan. This section should also mention the current update process to revise flow criteria to improve water quality.

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Attachment 7 Shasta Lake Water Resources Investigation DEIS Comment Form- CDFW August 2013						
Geologic Technical Report Comments						
Reviewer Name: Mark Smelser Reviewer Email: Mark.Smelser@wildlife.ca.gov Reviewer Agency: California Department of Fish and Wildlife Reviewer Mailing Address: 601 Locust St., Redding, CA 96001 Date: Aug 2013						
ITEM	REVIEWER	CHAPTER TITLE	CHAPTER NUMBER	PAGE NUMBER	LINE NUMBER	TEXT
1	CDFW	Geologic Technical Report	General	N/A	N/A	<p>A geologist licensed in the State of California is not identified as being responsible for the preparation of the Geologic Technical Report. In particular, the Appendix that describes shoreline erosion. Both the report and appendix includes interpretations and opinions regarding slope stability, geologic hazards, and future erosion. Such interpretations and opinions fall under the professional responsibilities of a state licensed geologist or geotechnical engineer. Consequently, such an individual should be formally identified.</p>
2	CDFW	Geologic Technical Report	General	1-9	18-25	<p>The Geologic Technical Report erroneously attributes geologic data to Hackel (1966) when the true reference should be Irwin (1966, p. 23). The reliance on the 1966 reference and the use of outdated terms (e.g., Eastern Klamath Belt instead of Eastern Klamath Terrane) demonstrates that limited research was conducted in the preparation of the report. There has been a significant amount of geologic work conducted within the Klamath Mountains Geomorphic Province over the past several decades, which should be incorporated in this document. Please see USGS Open File Report 2003-306 (Irwin 2003) for an excellent bibliography on geologic research in the Klamath Mountains.</p>
3	CDFW	Geologic Technical Report	General	1-19 to 1-20	39-40; 1-2	<p>The Geologic Technical Report states that the nearest "active" fault to Shasta Dam is the Battle Creek fault zone and they use the term "active" as defined by the Alquist-Priolo Earthquake Fault Zoning Act (AP Act). Review of California's fault activity map (Jennings and Bryant 2010) shows the Battle Creek Fault zone as not exhibiting evidence of surface rupture within the last 11,000 years. Therefore, the Battle Creek fault is not an "active" fault as defined by the Act. The "active fault" declaration in the report again demonstrates limited research and a lack of oversight in the report preparation by a state licensed geologist. Moreover, to state that this fault zone is active and therefore imply the necessity for specific regulatory actions as defined in the AP Act could create undue concern in the inhabitants of the Red Bluff area.</p>
4	CDFW	Geologic Technical Report	General	1-20	1-9	<p>This discussion does not make sense, and additional clarification is required. Specifically, how does a 6.5 moment magnitude earthquake on the Battle Creek fault result in a 7.3 moment magnitude earthquake at Shasta Dam?</p>
5	CDFW	Geologic Technical Report	General	1-22	19-24	<p>The discussion of mass wasting etc. is important and comes up again in the shoreline erosion attachment. While Figure 1-4 and Tables 1-6 and 1-78 document the presence of the landslides and related features, the information provided does not allow for an evaluation of these features as potentially significant environmental impacts that may be triggered, or exacerbated by a higher lake level. More specifically, the first step in assessing whether or not such features represent a potentially significant environmental impact is to document the spatial relationship between these features and resources of value (i.e., natural environments or infrastructure). This does not appear to have been completed.</p>
6	CDFW	Geologic Technical Report	General	1-26	1	<p>Strictly speaking, the Alquist-Priolo Act does not show areas of faulting. The A-P Act requires that the State Geologist establish regulatory earthquake fault zones and those zones are depicted on maps known as Earthquake Fault Zones (after 1994) or Special Studies Zones (prior to 1994). The zones are plotted on standard USGS 1:24,000 scale 7.5-minute quadrangle maps, and individual maps are referenced by the name of the particular USGS 7.5 minute quadrangle map.</p>

	Page 2	CDFW Comments on SLWRI DEIS - Geologic Report				
7	CDFW	Geologic Technical Report	General	1-27	3-4	N/A
						The Geologic Technical Report references a "Great Valley thrust fault system". Such a "system" is not formally documented within California's fault activity map (Jennings and Bryant 2010), but is recognized in the database of potential earthquakes (USGS OFR 96-705). This system is generally considered to be a zone of folds and "blind" thrust faults that while capable of slipping and causing seismic shaking are typically not associated with ground surface rupture. Therefore, a few additional clarifying statements should be included with this discussion of the Great Valley thrust fault system.
8	CDFW	Geologic Technical Report	General	1-29	34-35	N/A
						The Foothills fault system is not "active" (i.e., demonstrated surface displacement within the last 11,000 years). In order to avoid confusion, please use the term active only when referring to faults that are designated by the California Geological Survey (i.e., Alquist-Prilo Act) as having surface displacement within the Holocene (last 11,000 years). The term <i>potentially active</i> is used to define faults that exhibit evidence of surface displacement during the last two or three million years. Please review the Fault Activity Map of California (CGS, Geologic Data Map No. 6, 2010) for more on this.
9	CDFW	Geologic Technical Report	General	1-45	3	
						Please define the term "droughty".
10	CDFW	Geologic Technical Report-Appendix 1	General	N/A		Shoreline Erosion
						This report should identify the professional individuals who are responsible for the preparation of this report.
11	CDFW	Geologic Technical Report-Appendix 1	General			Shoreline Erosion
						Montgomery, Sidle; references are missing
12	CDFW	Geologic Technical Report-Appendix 1		2-5	31	Shoreline Erosion
						There are awkward or incomplete sentence regarding impacts and soil productivity, please rewrite.
13	CDFW	Geologic Technical Report-Appendix 1		2-5	32-33	Shoreline Erosion
						This sentence is awkward and does not appear to make sense; please review. More importantly, "large landslides" destabilized by both mining and shoreline erosion represent a potentially significant impact. Sediment input into the lake is an obvious concern, but we need more information regarding whether or not reactivation of the landslides would adversely impact mines, roads, and other infrastructure elements. While Figure 1-4 of the main report shows the areas of mass wasting, the scale of that maps is too small to adequately show the spatial relationship between mass wasting and infrastructure which is necessary to best understand landsliding as a potential significant environmental impact.
14	CDFW	Geologic Technical Report-Appendix 1		3-5	24-26	Shoreline Erosion
						The historic shoreline erosion rate is stated to be approximately 90 cubic yards per acre per year. Using a few assumptions related to the stated dimensions of the measured sites, my rudimentary calculations reduce that figure down to roughly 0.7-inch per square foot of shoreline per year, and that value appears reasonable. Using the acres as the spatial unit is a bit confusing in that it does not appear that any of the measured sites were that large. Additionally, it is difficult to intuitively contemplate shorelines in terms of acres given that they are typically perceived as relatively narrow bands around the lake. Please consider using a more intuitively obvious set of units, and perhaps add a little bit more detail to the dimensions used in the areal volume calculations.

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Attachment 7 Shasta Lake Water Resources Investigation DEIS Comments--CDFW--Version June 2013							
Botanical Resources and Wetlands Technical Report Comments							
Reviewer Name Richard L. Brad Henderson Reviewer Email Richard.Lie@wildlife.ca.gov, Brad.Henderson@wildlife.ca.gov Reviewer Agency CA Dept. of Fish and Wildlife Reviewer Mailing Address 601 Locust St. Redding, CA 96001 Date Sept 2013							
ITEM	REVIEWER	CHAPTER TITLE	CHAPTER NUMBER	PAGE NUMBER	LINE NUMBER	TEXT	COMMENT
1	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-1		This area is referred to as the "impoundment area"	The total acreage of the 1,090-foot impoundment area (i.e. the new lake) should be provided here along with the total acreage of existing terrestrial areas proposed to be inundated (3,000 acres inundated and 3,338 acres of relocation areas?)
2	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-1		"relocation areas"	Total acreage of relocation areas should be provided here
3	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-1		Subsequently botany studies have been expanded into select areas	Please identify number of acres. Identify what percentage of existing terrestrial areas was surveyed. Please identify why the entire area was not surveyed? Surveys should be comprehensive over the entire site, including areas that will be directly or indirectly impacted by the project. Refer to CDFW's protocols for vegetation and plant surveys (2009) and incorporate by reference
4	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-7		Table 1-1	Impacts: MB 456 59, BGA 91 67, SA 719 61, MCA 435 32, SCA 242 49, PUA 527 54 Total: 3000 76
5	CDFW	"	1	1-8		Text including Barren and other types	This discussion and all following discussions for each land coverage/MCV type would be much more useful if the following information is included: 1. total acreage within the primary project area 2. total acreage proposed to be altered or impacted via construction, inundation, etc. 3. Whether the plant community is considered to be sensitive by any state or federal agency (could be denoted in the tables as well).
6	CDFW	"	1	1-24		Gray Pine	Include the scientific name the first time a species is mentioned in the body of the text.
7	CDFW	"	1	1-27		Upper Sacramento River	Please identify if there is some definition for this portion of the project area - i.e. how far beyond the banks of the Sacramento River is the assessment area???
8	CDFW	"	1	1-29		Sensitive natural communities may be of special concern to these agencies and conservation organizations for a variety of reasons.	The document should include vegetation communities declining on a statewide level considered special concern (S1-S3 rank). For example, guidance on assessing sensitive plant communities can be found at http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_background.asp
9	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-29		Figures 1-3a through 1-3i map the potential locations of sensitive plant communities along the Sacramento River	What about sensitive plant communities in the impoundment area??? Why have they not been mentioned? The maps below show an excessive amount of detail for species locations completely outside of the Sacramento River. Life histories for many species depicted are completely unrelated to the River and to this project. Furthermore, The CNDDB is NOT a public dataset, and should not be included on maps that will be made public in reports and other documents. The "Data Use Guidelines" document outlines appropriate ways to put the CNDDB data on maps, and provides details on the symbology. http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp
						Comment cont'd	These maps need to be substantially cleaned up to depict important resources within a narrowly defined area subject to project effects. This report should not depict tadpole shrimp locations for a project on the Sacramento River. The lack of detail for sensitive species occurrences within the impoundment area, where project impacts will be direct and substantial is a major omission. Including so much unrelated information is a distraction. Focus on the real issues and the impacts.
10	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-30		Locator Map	Please state why off-site animal occurrences being mapped in a plant report.
	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-51		These habitat types are tracked in the CNDDB	This is not necessarily true. Please read the following link which provides more accurate information regarding jurisdictional determinations and rare natural communities http://www.dfg.ca.gov/biogeodata/vegcamp/natural_comm_background.asp

Page 2 SLWRI DEIS Comment Form--CDFW--Botanical Resources and Wetlands Technical Report							
12	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-72	22 et ff.	In 2004, botanical surveys were conducted...	What about sensitive plant communities in the impoundment area???? Why have they not been mentioned? The maps below show an excessive amount of detail for species locations completely outside of the Sacramento River. Life histories for many species depicted are completely unrelated to the River and to this project. Furthermore, The CNDDB is NOT a public dataset, and should not be included on maps that will be made public in reports and other documents. The "Data Use Guidelines" document outlines appropriate ways to put the CNDDB data on maps, and provides details on the symbology. http://www.dfg.ca.gov/biodata/cnddb/mapsanddata.asp . These maps need to be substantially cleaned up to depict important resources within a narrowly defined area subject to project effects. This report should not depict tadpole shrimp locations for a project on the Sacramento River.
13	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-72	35 et ff.	Based upon previous surveys resulting in....	Specific survey reports are mentioned for surveys conducted in 2009 and 2010 on <i>Neviusia clifforti</i> and <i>Vaccinium</i> sp.; however, these reports are not cited and appear to be unavailable and, these survey reports are cited here as reference to <i>Vaccinium</i> sp. but not discussed above in reference to <i>Neviusia clifforti</i> . These reports and data sets from these reports must be made available and summaries of these reports should be added to the EIR/EIS to validate claims and assertions based upon them.
14	B. Henderson	"	1	1-72		NSR conducted several botanical survey	Please identify how many total acres have been surveyed to date and what percentage of the direct impact area this represents
15	CDFW	"	1	1-72		Special-status plant species detected during the surveys...in Attachment 3.	Why are they not discussed here? Sensitive plants detected within the proposed inundation area will suffer a direct loss and should be a primary focus of this report. To put different effects analyses and discussion in different documents makes a complete review of the effects difficult to do.
16	CDFW	"	1	1-72		Based on previous surveys...	This sentence does not make sense - what is meant by "based on"?
17	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-72		...these species outside of the proposed project area.	Please identify why surveys were conducted outside the project area? Why not inside the project area? This discussion should start with whether these species are known from the project area and whether they would be impacted. Secondly, this section should state whether in the opinion of NSR the project area supports potential habitat. The off-site survey and genetic analysis should come later.
18	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-73		In 2010, botanical surveys were conducted in all relocation areas...	Please identify what species were observed during these surveys.
19	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-74	14 et ff.	Shasta snow-wreath is currently known from 23 locations...	Discussion of <i>Neviusia clifforti</i> in this section should include discussion of the fact that it is likely that the current distribution of populations of <i>N. clifforti</i> is some reduced fraction of the original population distribution that existed prior to the completion of Shasta Dam and the filling of Shasta Lake. (Although this is briefly mentioned in the Cumulative Effects section of the Draft EIS, p. 12-171, where the brevity may be appropriate, it needs to be more thoroughly discussed in the sections discussing the species and remnant populations as they exist today.) The filling of Shasta Lake very likely exterminated many populations of <i>N. clifforti</i> . Of significance is that most of the 23 extant populations occur near the periphery of Shasta Lake, suggesting that its distribution was not historically at much higher elevations and that the remaining populations have may be near some environment limits that are reflected in the observed elevational limits. Discussion of these issues should be included in the affected environment as they are important for assessing levels of significant deleterious effects and for evaluation of any proposed mitigation measures.
20	CDFW	"	1	1-74		Shasta snow-wreath is currently known from 23 locations...	Please clarify if these were previously known or were identified during project-related surveys.
21	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-74		Of these, 13 Shasta snow-wreath populations were discovered...	Please identify who conducted the surveys.
22	CDFW	Botanical Resources and Wetlands Technical Report, Affected Environment	1	1-100		Acres totals for relocation areas will be provided in the FEIS.	It would be useful to provide an acreage figure for the impoundment and relocation areas outside of the existing lake here. Again, it would differentiate between areas of permanent loss versus temporary impacts to the existing Shasta Lake.
23	CDFW	"	1	1-100		The National List of Plant Species That Occur in Wetlands: California Region 0	This reference was updated in 2012.
24	CDFW	"	1	1-112		Fish and Game Code authorizes DFG to accept a Federal biological opinion, both the ESA and the CESA.	This can be done only if the federal BO is consistent with the provisions of CESA.

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Page 3 SLWRI DEIS Comment Form—CDFW—Botanical Resources and Wetlands Technical Report						
25	CDFW	"	1	1-112	Project impact on these species are not considered significant.	Reword as "Impacts to these species are considered significant."
26	CDFW	"	1	1-112	Paragraph: California Department of Fish and Game Designations Attachment 2: "List of Plant Species Observed in the Shasta Lake and Vicinity Portion of the Primary Study Area"	Much of the discussion in this paragraph is incorrect. For example, plants are not included. Refer here for the correct information: http://www.dfg.ca.gov/wildlife/nongame/iss/
27	CDFW	"	2	2-1		Move attachment 2 to the body of the text.

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Ms. Katrina Chow
Shasta Lake Water Resources Investigation
Draft Environmental Impact Statement
SCH# 2013082040
September 19, 2013
Page 2

If you have any questions, or if the scope of this project changes, please call me at (530) 225-3369.

Sincerely,

A handwritten signature in black ink, appearing to read 'Marcelino', with a long horizontal flourish extending to the right.

MARCELINO GONZALEZ
Local Development Review
Office of Community Planning
District 2

D-DSC Duplicate of S-DSC



DELTA STEWARDSHIP COUNCIL
A California State Agency

980 NINTH STREET, SUITE 1500
SACRAMENTO, CALIFORNIA 95814
WWW.DELTACOUNCIL.CA.GOV
(916) 445-5511

September 30, 2013

Katrina Chow, Project Manager
U.S. Bureau of Reclamation, Planning Division
2800 Cottage Way
Sacramento, CA 95825-1893

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Phil Isenberg

Members
Frank C. Damrell, Jr.
Randy Fiorini
Gloria Gray
Patrick Johnston
Hank Nordhoff
Don Nottoli

Executive Officer
Christopher M. Knopp

**RE: Staff Comments on Draft Environmental Impact Statement
For the Shasta Lake Water Resources Investigation**

Dear Ms. Chow:

Thank you for giving the Delta Stewardship Council (DSC) the opportunity to review and provide comments on the draft Environmental Impact Statement (EIS) for the Shasta Lake Water Resources Investigation, which proposes to raise Shasta Dam and carry out habitat enhancements for anadromous fish species. DSC staff has reviewed the draft EIS and herein submits its comments.

By way of background, the California Legislature created the DSC in 2009 to adopt and implement a legally enforceable plan (Delta Plan) to further the achievement of the State's coequal goals of providing a more reliable water supply for California and protecting, restoring and enhancing the Delta ecosystem in a way that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place. As you know, federal law now also incorporates the coequal goals (P.L. 112-074, Sec. 205). Although located upstream of the Delta, this project would impact California's coequal goals in several ways. Our comments below describe these impacts:

Consistency with the coequal goals: The project objectives as stated in the EIS are consistent with the coequal goals. Evaluations by the Natural Resources Agency have reported that other actions under consideration to achieve the co-equal goals, such as the proposed Bay Delta Conservation Plan, will be more valuable if they are complemented by additional storage. We are, however, aware that the U.S. Fish and Wildlife Service¹ believes the EIS overstates the potential benefits of this project to anadromous fish, and that the Department of Fish and Wildlife has expressed concerns that the analysis is incomplete². Both agencies

¹ U.S. Fish and Wildlife Service March; 7, 2013

² California Department of Fish and Wildlife; February 8, 2013

"Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

— CA Water Code §85054

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Katrina Chow
U.S. Bureau of Reclamation
September 30, 2013
Page 2

have commented that dedicated cold water pool storage should be released to meet temperature requirements rather than for water supply purposes. We also are informed that DWR believes the alternatives identified the EIS may not comply with California Public Resource Code § 5093.542. We urge the Bureau to give due consideration to the comments provided by these agencies.

Additional in-stream storage: The project would provide significant additional in-stream water storage upstream of the Delta. This could result in overall improvement in the reliability of water supplies diverted from the Delta, and could improve the average quality of the water in the Delta as well. The degree and extent to which these improvements occur would depend upon how the Central Valley and State Water Projects are operated, and would vary from year to year.

Reduced flood damage along the Sacramento River: The USBR also plans to use the additional storage capacity to help reduce flood damage along the Sacramento River, which would help reduce peak flows and flooding potential in the Delta. Again, the actual effect would vary from year to year depending on rainfall patterns, other improvements to the Sacramento River Flood Control Project, and how the Central Valley and State Water Projects are operated. This enhanced flood management capacity will grow in value as California's climate changes.

Meeting water quality goals for the ecosystem: Greater availability of water to meet ecosystem water quality goals in the Delta could have a beneficial effect on the Delta as well, depending on project operation. The project's increase in the cold water pool is intended to improve the survival of anadromous fish survival in the upper reaches of the Sacramento River. Additional water from the Shasta Reservoir could also be used for other environmental purposes in the Bay-Delta system (e.g. salinity control, especially during a Delta emergency).


Finally, we note that one of the requirements of the NMFS Biological Opinion for salmon³ is to explore "long-term passage prescriptions at Shasta Dam and re-introduction of winter-run into its native habitat in the McCloud and/or Upper Sacramento rivers." It appears that none of the alternatives address this issue. We recommend the final EIS specifically evaluate such alternatives. In addition, the final EIS should acknowledge that enlarging Shasta Reservoir would affect both the value of potential actions to improve fish passage at Shasta Dam and to re-introduce winter-run into the McCloud and/or Upper Sacramento rivers if the enlarged reservoir floods potential spawning and rearing areas upstream of the current reservoir.

³ "Biological Opinion and Conference Opinion on the Long-term Operations of the Central Valley Project and State Water Project" page 275, bullet 1 (National Marine Fisheries Service, 2009).

Katrina Chow
U.S. Bureau of Reclamation
September 30, 2013
Page 3

Again, thank you for the opportunity to provide our comments on this EIS. Please contact Carl Lischeske at (916) 445-5891 if you need further information.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Messer".

Cindy Messer, Deputy Director

D-SWRCB Duplicate of S-SWRCB



State Water Resources Control Board

SEP 17 2013

In Reply Refer to:
KDM: A005625

Ms. Katrina Chow
U.S. Bureau of Reclamation
2800 Cottage Way, MP-700
Sacramento, CA 95825-1893

Dear Ms. Chow:

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR SHASTA LAKE WATER RESOURCES INVESTIGATION

The State Water Resources Control Board (State Water Board), Division of Water Rights (Division) has reviewed the DEIS for the Shasta Lake water resources investigation. The DEIS evaluates six alternatives for raising the existing Shasta Dam and Shasta Reservoir. Shasta Reservoir has a current capacity of 4,550,000 acre-feet (af). The maximum enlargement under consideration is 634,000 af. Thus, the maximum enlarged capacity would be 5,184,000 af.

Division staff evaluated U.S. Bureau of Reclamation's water rights for Lake Shasta to determine whether the project would require an additional appropriative water right. The Lake Shasta water rights for consumptive use purposes (irrigation, domestic, municipal, etc.) are under permits issued on Application 5626, 9363 and 9364. Power generation is covered by the permits issued on Applications 5625 and 9365.

The table below lists the Lake Shasta water rights (storage element only). The water rights for Lake Shasta are subject not only to individual water right limits, but also to combined right limits. The table below also lists the water rights (storage element only) that are part of the combined right limitation terms:

Water Right	Uses	Storage Quantity In af per annum (afa)	Project
5625	Power	3,190,000	Shasta
9365	Power	1,303,000	Shasta
	<i>Total Power</i>	<i>4,493,000</i>	

EDUARDO Q. BROWN JR. GOVERNOR | THOMAS H. HOWARD, EXECUTIVE DIRECTOR

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, CA 95813-0100 | www.waterboards.ca.gov

RECEIVED

Ms. Katrina Chow

- 2 -

SEP 17 2013

5626	Municipal, etc.	3,190,000	Shasta
9363	Municipal, etc.	310,000	Shasta
9364	Municipal, etc.	1,303,000	Shasta
	<i>Total Municipal, etc.</i>	<i>4,803,000</i>	
9366	Municipal, etc.	0	Contra Costa Canal
9367	Municipal, etc.	0	Contra Costa Canal
9368	Municipal, etc.	0	Tracy Pumping Plant

The combined right limits are as follows:

- The total amount of water to be appropriated by direct diversion and by storage under permits issued pursuant to Applications 5626, 9363, 9364, 9366, 9367 and 9368 shall not exceed 6,500,000 af per annum of which not in excess of 3,450,000 afa shall be by direct diversion. The maximum combined rates of direct diversion and redirection of stored water shall not exceed 22,200 cubic feet per second.
- Applications 5625, 5626 and 9363: The total amount of water to be appropriated by storage under permits issued pursuant to Applications 5625, 5626, 9363, 9364 and 9365 shall not exceed 4,493,000 afa.
- Applications 9364 and 9365: The total amount of water to be appropriated under permits issued pursuant to Applications 5625, 5626, 9363, 9364 and 9365 shall not exceed 4,493,000 afa.

The water rights authorize specific quantities for collection to storage annually. The rights do not state the size of the facility that the water will be stored in. Consequently, provided that Reclamation does not exceed its diversion limits, additional water rights are not needed based solely on enlargement of the reservoir size. Should Reclamation determine that it will annually collect more than a combined total of 4,493,000 af to storage in the enlarged reservoir, or exceed the other annual combined right limits listed above, an additional appropriative right is required.

Table 6-5 provides simulated average end-of-month Shasta Reservoir Storage under existing condition (2005) and future condition (2030). This data indicates that the reservoir retains more water in storage under all alternatives considered in the DEIS than under the no action alternative. Inasmuch as carryover storage remains in the reservoir, new collection of a like amount would not occur. Nonetheless, Division staff requests that Reclamation provide documentation that the project can be operated under existing rights. To document this, Division staff requests that Reclamation provide a monthly diversions table covering the modeling period of the DEIS showing that the reservoir enlargement project can be operated within the annual combined right limits listed above. Thank you in advance for the information.

Ms. Katrina Chow

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SEP 17 2013

If you require further assistance, please contact Katherine Mrowka at (916) 341-5363 or by email at kathy.mrowka@waterboards.ca.gov. Written correspondence or inquiries should be addressed as follows: State Water Resources Control Board, Division of Water Rights, Attn: Katherine Mrowka, P.O. Box 2000, Sacramento, CA, 95812-2000.

Sincerely,

ORIGINAL SIGNED BY:

Katherine Mrowka, Senior
Permitting and Licensing Section
Division of Water Rights

cc: Valentina Cabrera-Stagno
Environmental Protection Agency
Cabrera-Stagno.Valentina@epa.gov

Stephanie Skophammer
Environmental Protection Agency
SKOPHAMMER.STEPHANIE@EPA.GOV

Lisa Holm
U.S. Bureau of Reclamation
Lisa M Holm (lholtm@usbr.gov)

Ray Sahlberg
U.S. Bureau of Reclamation
rsahlberg@usbr.gov

D-CVFB2 Duplicate of S-CVFB2

Oct 01 2013 11:39 AM DWR-CVFPB 1 916 574 0682

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**CENTRAL VALLEY FLOOD PROTECTION BOARD****FACSIMILE COVER SHEET**

3310 El Camino Ave., Rm. 151
 SACRAMENTO, CA 95821
 (916) 574-0609 FAX: (916) 574-0682
 PERMITS: (916) 574-0685 FAX: (916) 574-0682

DATE: September 30, 2013	TOTAL NUMBER OF PAGE(S) INCLUDING COVER SHEET 5
To: Ms. Katrina Chow Project Manager Bureau of Reclamation, Mid-Pacific Region	
FAX NUMBER: (916) 978-5094 (fax)	PHONE NUMBER: (916) 978-5067 (office)
FROM:	
NAME: James Herota Senior Environmental Scientist	Telephone: (916) 574-0651 FAX No.: (916) 574-0682
COMMENTS: Please accept the enclosed comments on the Shasta Lake Water Resources Investigation Draft Environmental Impact Statement (DEIS) June 2013 (78 Federal Register 39315; Document Number: 2013-15659) submitted on behalf of the California Central Valley Flood Protection Board. Let me know if you have any questions.	
Original to Follow YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
<i>Note: If you have not received all the facsimile pages, please contact me at the telephone number listed above.</i>	

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STATE OF CALIFORNIA – CALIFORNIA NATURAL RESOURCES AGENCY
CENTRAL VALLEY FLOOD PROTECTION BOARD

3310 El Camino Ave., Rm. 151
SACRAMENTO, CA 95621
(916) 574-0609 FAX: (916) 574-0682
PERMITS: (916) 574-2380 FAX: (916) 574-0682

EDMUND G. BROWN JR., GOVERNOR



September 30, 2013

Ms. Katrina Chow
Bureau of Reclamation
2800 Cottage Way
Sacramento, California 95825

Subject: Shasta Lake Water Resources Investigation
Draft Environmental Impact Statement (DEIS) June 2013;
78 Federal Register 39315; Document Number: 2013-15659

Dear Ms. Chow:

The Central Valley Flood Protection Board (Board) staff appreciates the opportunity to review and comment on the subject document. We understand the proposed Shasta Lake Water Resources project is intended to improve operational flexibility of the Delta watershed system through modifying the existing Shasta Dam and Reservoir.

Our comments are intended to clarify the Board's authority for regulatory compliance. Shasta Dam and Lake are part of the Central Valley Project, which is exempt from Board jurisdiction per California Code of Regulations, Title 23 (CCR 23) Section 2(c) and (d). The Board may, however, have concerns about adverse flooding impacts downstream of Keswick Dam, along the Sacramento River to the Delta, due to sedimentation, erosion, and modified ecosystem resource impacts from operation of the proposed project. As a result, the Board may require encroachment permits to be obtained by State agencies, non-federal, and non-government agencies.

Regulatory Compliance

According to the Regulatory Framework, as described in the project's Draft Environmental Impact Statement (DEIS) on page 3-60, "*Under CCR Title 23, the Central Valley Flood Protection Board (formerly called the State of California Reclamation Board), issues encroachment permits to maintain the integrity and safety of flood control project levees and floodways that were constructed according to the flood control plans adopted by the board or the California Legislature.*" This description only partially describes the Board's authority.

Recommendation – Board staff recommends revising this description as follows:

- The Board enforces standards for the construction, maintenance, and protection of adopted flood control plans that will protect public lands from floods. The jurisdiction of the Board includes the Central Valley, including all tributaries and distributaries of the Sacramento River, the San Joaquin River, and designated floodways (California Code of Regulations, Title 23, Section 2). The Board has all the responsibilities and authorities

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Ms. Katrina Chow
 September 30, 2013
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necessary to oversee future modifications as approved by the U.S. Army Corps of Engineers (Corps) pursuant to assurance agreements with the Corps and the Corps' Operation and Maintenance Manuals under Title 33 Code of Federal Regulations, Section 208.10 and Title 33 United States Code, Section 408.

- The Board, in cooperation with the Corps, is responsible for controlling flooding along the Sacramento and San Joaquin Rivers and their tributaries. The Board maintains the integrity of the existing flood control system and designated floodways through its regulatory authority by issuing permits for encroachments. Construction and habitat restoration projects within the jurisdiction of the Board are required to meet standards for the construction, maintenance, and protection of adopted plans of flood control that will protect public lands from floods. The State, through the Board, shares in the costs of construction, assumes responsibility for ensuring the operation and maintenance of the facilities, and holds the federal government harmless from liability. For the Board's flood management projects, the Board delegates operation and maintenance to the Department of Water Resources (DWR), or local maintaining agencies.

Effects on Flood Flows

1. Impacts to Regulated Streams

The DEIS discusses the potential impacts on biological resources, however, it fails to analyze impacts to regulated streams under Board jurisdiction in accordance with CCR 23, Section 112, including the Sacramento River below Keswick Dam and the tributaries to the Sacramento River between Keswick Dam and Red Bluff. These streams include Battle Creek (Tehama County), Bear Creek (reach within designated floodway of the Sacramento River), Clear Creek (Sacramento River to Whiskeytown Dam), Cow Creek (Shasta County to 0.6 miles upstream of Millville Plains Road), Cottonwood Creek (Shasta and Tehama county border to Dutch Gulch Dam), and Cottonwood Creek South Fork (Tehama County).

Recommendation – Board staff recommends that the DEIS analyze impacts to regulated streams under Board jurisdiction in accordance with CCR 23, Section 112.

2. Impacts due to Mitigation Measure Geo-2 (CP2)

According to DEIS Mitigation Measure Geo-2 (CP2), page 4-97: *"Replace Lost Ecological Functions of Aquatic Habitats by Restoring Existing Degraded Aquatic Habitats in the Vicinity of the Impact. The loss of 18.5 miles of intermittent and perennial streams (including 6.2 miles of streams with a gradient less than 7 percent) will be mitigated by compensating for the impact by replacing or providing substitute resources or environments. Compensation will be accomplished by restoring and enhancing the aquatic functions of existing, degraded aquatic habitats in or near the Shasta Lake and vicinity area. Examples of techniques that may be used include channel and bank stabilization, channel redirection, channel reconstruction, culvert replacement and elimination of barriers to fish passage, and enhancement of habitat physical structure (e.g., placement of woody debris, rocks). The nature and extent of the restoration and enhancement activities will be based on an assessment of the ecological functions that are lost as a consequence of implementing this alternative. Implementation of this mitigation measure would reduce Impact Geo-2 (CP1) to a less-than-significant level."*

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Ms. Katrina Chow
September 30, 2013
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The DEIS includes mitigation measures that may have adverse impacts on flood flows in waterways under Board jurisdiction. It is foreseeable that implementation of these mitigation measures may result in significant adverse impacts to flood flows.

Recommendation – Board staff recommends revising Mitigation Measure Geo-2 to include a long term management plan to manage flood flows during peak flood conditions to minimize flood damage. Riparian preservation and enhancement in mitigation areas within floodways may expose people or structures to potential substantial adverse effects, including the risk of loss, or injury, or death. The long term management plan should include a Safe Harbor Agreement that would allow the channel and levee maintaining agencies to conduct maintenance in the event of the need for take of covered or listed species due to required maintenance.

3. Impacts due to Mitigation Strategy under Development

Page 1-35 of the DEIS states *"Off-Site Mitigation for Impacts on Biological Resources, Details about off-site opportunities to mitigate impacts on biological resources in the primary study area are not yet available. Potential mitigation lands containing wetland and special-status species habitat comparable to those that would be affected by the project have been identified near the study area. A comprehensive mitigation strategy is currently under development. Additional discussion of how these lands may be applied as mitigation and at what ratios will be provided in future documents. A discussion of mitigation for loss of habitat through preservation and enhancement in mitigation areas will be included in future documents."*

Because the comprehensive mitigation strategy is not yet available for review, Board staff is unable to determine whether feasible alternatives or mitigation measures will be presented to lessen adverse impacts on flood flows.

Request – Board staff requests that you provide the comprehensive mitigation strategy to Board staff for review upon its completion. Additional mitigation measures for channel and levee improvements and maintenance to prevent and/or reduce hydraulic impacts may be required.

4. Impacts due to Change in Flow Regimes

Page 11-72 of the DEIS states, *"By altering reservoir storage and releases, the project would change flow regimes in downstream waterways. In turn, these alterations to the flow regime could affect fishery resources and important ecological processes on which the fish community depends, particularly their instream and seasonal floodplain habitats along waterways immediately downstream from reservoirs."*

Board staff is concerned about the potential for increased sedimentation and erosion within floodways under Board's jurisdiction due to direct and indirect effects of altering reservoir releases and changes in flow regimes.

Recommendation – Board staff recommends including mitigation measures to minimize peak flood flows during flood season, primarily from November 1 through April 15.

Oct 01 2013 11:39 AM DWR-CVFPB 1 916 574 0682

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Ms. Katrina Chow
September 30, 2013
Page 4 of 4

Encroachment Permits

Non-federal, non-governmental, and State agencies are required to obtain a Board Encroachment Permit in accordance with CCR 23. Federal agencies should consult with Board staff and consideration should be made early in the project design phase to provide maximum flexibility to avoid increasing potential adverse flood impacts.

Copies of the Board's Encroachment Permit Application forms and complete text of our Regulations can be found on the Board's website at <http://www.cvpfb.ca.gov/regulations/>.

If you have any questions regarding these recommendations or requests, please contact Ali Porbaha, Senior Engineer, at (916) 574-2378, or Mohammad.Porbaha@water.ca.gov, or James Herota, Senior Environmental Scientist, at (916) 574-0651, or James.Herota@water.ca.gov.

Sincerely,


Jay S. Punia
Executive Officer

cc: Governor's Office of Planning and Research
State Clearinghouse
1400 Tenth Street, Room 121
Sacramento, California 95814

Local Agency

D-SWC Duplicate of L-SWC

September 27, 2013

Submitted via email: KChow@usbr.gov

Katrina Chow, Project Manager
United States Department of the Interior
Bureau of Reclamation, Mid-Pacific Region
2800 Cottage Way, MP-700
Sacramento, CA 95825

Re Draft Environmental Impact Statement: Shasta Lake Water Resources
Investigation

Dear Ms. Chow:

The State Water Contractors ("SWC") appreciate the opportunity to submit these comments regarding the US Bureau of Reclamation (Reclamation) Draft Environmental Impact Statement (DEIS) for the Shasta Lake Water Resources Investigation (SLWRI).

As stated in the DEIS, the purpose of the document is to evaluate the potential environmental effects of alternative plans to enlarge Shasta Dam and Reservoir to: (1) increase anadromous fish survival in the upper Sacramento River; (2) increase water supplies and water supply reliability for agricultural, municipal and industrial, and environmental purposes; and (3) address related water resource problems, needs, and opportunities. As described in the DEIS, implementation of the SLWRI would involve a potential dam raise ranging from 6.5 to 18.5 feet and related reservoir enlargements ranging from 256 to 634 thousand acre feet. The DEIS discloses potential effects of SLWRI implementation on areas of interest to the SWC, including the hydrology, water quality, and fisheries and aquatic resources of the Sacramento-San Joaquin Delta (Delta) and the water management capability of the State Water Project (SWP).

The SWC is an organization representing 27 of the 29 public water entities¹ that hold contracts with the California Department of Water Resources (DWR) for the delivery of water from the State Water Project (SWP). Collectively, the members of the SWC provide all, or a part, of the water supply delivered to



DIRECTORS

David Olita
President
Solano County Water Agency

Dan Flory
Vice President
Antelope Valley-East Kern
Water Agency

Ray Stokes
Secretary-Treasurer
Central Coast Water Authority

Stephen Arakawa
Metropolitan Water District
of Southern California

Curtis Creel
Kern County Water Agency

Mark Gilkey
Tulare Lake Basin Water
Storage District

Douglas Hendrick
San Bernardino Valley MWD

Joan Maher
Santa Clara Valley Water
District

Dan Macnada
Castaic Lake Water Agency

General Manager
Terry Erlewine

¹ The SWC members are: Alameda County Flood Control & Water Conservation District, Zone 7; Alameda County Water District; Antelope Valley East Kern Water Agency; Casitas Municipal Water District on behalf of the Ventura County Flood Control District; Castaic Lake Water Agency; Central Coast Water Authority on behalf of the Santa Barbara County Flood Control & Water District; City of Yuba City; Coachella Valley Water District; County of Kings; Crestline-Lake Arrowhead Water Agency; Desert Water Agency; Dudley Ridge Water District; Empire-West Side Irrigation District; Kern County Water Agency; Linderock Creek Irrigation District; The Metropolitan Water District of Southern California; Mojave Water Agency; Napa County Flood Control & Water Conservation District; Oak Flat Water District; Palmdale Water District; San Bernardino Valley Municipal Water District; San Gabriel Valley Municipal Water District; San Geronimo Pass Water Agency; San Luis Obispo County Flood Control & Water Conservation District; Santa Clara Valley Water District; Solano County Water Agency; and, Tulare Lake Basin Water Storage District.

Ms. Katrina Chow
September 27, 2013
Page Two

approximately 25 million Californians, roughly two-thirds of the State's population, and to over 750,000 acres of irrigated agriculture. The members of the SWC provide this water to retailers, who, in turn, serve it to consumers throughout the San Francisco Bay Area, the San Joaquin Valley, the Central Coast, and Southern California.

The SWP water supply delivered through the Delta constitutes a significant portion of the water supplies available to SWC members. As a result, the SWC is very interested in matters affecting the ability of the SWP to deliver water supply through the Delta. The water management and delivery capability of the SWP is closely tied to that of the Central Valley Project (CVP) through the Coordinated Operations Agreement (COA), which defines how the two projects share available water supply and joint responsibility for meeting Delta and senior water right obligations. Since Shasta Dam and Reservoir is a major facility of the CVP, implementation of the SLWRI and associated changes in CVP and SWP operations are of particular interest to the SWC.

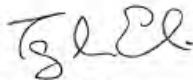
The DEIS shows that under all SLWRI alternatives, changes from the existing condition are consistently less than 1% for important SWP resources including Oroville Reservoir storage, Feather River flows, exports through Banks Pumping Plant, and deliveries to SWP contractors. Additionally, the DEIS shows that Delta hydrology, hydrodynamics, and water quality are similarly minimally affected by implementation of the SLWRI.

The SWC recognizes the importance of and need for additional storage north of the Delta. Additional storage north of the Delta can provide important operational flexibility and help address cold water pool, in-stream flow, and water temperature constraints which can help improve both water supply and fishery conditions. Indeed, the DEIS shows that implementation of the SLWRI will generally improve conditions for the federally Endangered Species Act (ESA) listed spring and winter run Chinook salmon.

Based on the effects associated with implementation of the SLWRI disclosed in the DEIS, the SWC support continued investigation of the SLWRI alternatives and look forward to reviewing the Final EIS and Final Feasibility Report.

We appreciate your consideration of our comments. If you have any questions, please feel free to contact me at (916) 447-7357.

Sincerely,



Terry L. Erlewine
General Manager

D-FARR Duplicate of P-FARR

City of Shasta Lake

P.O. Box 777 • 1650 Stanton Drive
Shasta Lake, CA 96019
Phone: 530.275.7400
Fax: 530.275.7412
Website: cityofshastalake.org



September 25, 2013

Katrina Chow, Project Manager

Bureau of Reclamation
Planning Division
2800 Cottage Way
Sacramento CA 95825-1893

E-Mail: BOR-MPR-SLWRI@usbr.gov

RE: Draft Environmental Impact Statement for Shasta Lake Water Resources Investigation

Dear Ms. Chow:

The City of Shasta Lake (City) thanks the Bureau of Reclamation (BOR) for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) for the Shasta Lake Water Resources Investigation.

The City is located immediately south/southeast of the Shasta Dam complex and is literally and figuratively the Gateway to the Dam. Shasta Dam Boulevard (SR 151) is the main access road from Interstate 5 to the Dam and serves as the main thoroughfare through the City's Central Business District. SR 151 continues west past the City limit and loops to the north past Lookout Point (where the three "Shastas" can be seen) to the Shasta Dam Visitor's Center.

The north-south access road to the Dam is Lake Boulevard, which intersects with SR 151. Lake Boulevard continues directly north around to the Dam and is the shorter route to access the Dam. The northerly City limit on Lake Boulevard is ¼ mile from Kennett Road, the access road to Centimudi Boat Ramp.

The City exists largely because of the initial construction of the Dam. Its predecessor organizations, the Shasta Dam Area Public Utility District and the Summit City Public Utility District, were created to gain access to potable water deliveries and power generated by the Dam. It shares a symbiotic relationship with the Dam because of these connections. The City has received water and power from the Dam since 1946.

Because of its proximity to the Dam, the configuration of the existing roadways, and the interrelationship of water and power services, the City is extremely concerned about the overall impact this massive construction project will have on the City and its citizens, both during and after construction.

Accordingly, after review of the DEIS, the City has identified several areas that warrant additional analysis, mitigation measures and comment by BOR.

SOCIOECONOMIC IMPACTS

Chapter 16 of the DEIS, Socioeconomics, Population and Housing, does not even mention the City of Shasta Lake. It is obvious, as the City of Shasta Lake is the closest community to the project construction site, we would bear a disproportionate share of the impacts associated with reduction in air quality, increased traffic flow, degradation of streets and roadways from increased traffic, exposure to hazardous materials, and loss of tourism revenues related to the elimination of the Dam tours and other recreational facilities.

By nearly every measure currently in place in the State of California, the City is considered a disadvantaged community. The State defines "disadvantaged community" as a community with a median household income less than 80 percent of the statewide average. According to the U.S. Census Bureau, the State median Income (2007-2011) was \$61,632; whereas, the median income for the City was \$42,901 – 69 percent of the State median.

According to the California Employment Development Department, Labor Market Information Division, the California unemployment rate was 8.8% in August 2013, compared to 10.2% for Shasta County. The unemployment rate for the City was 13.9%, the highest percentage of all incorporated cities within the County.

This disparity is further intensified by the recent economic downturn, which has had a detrimental impact on Shasta County in general, and has specifically impacted individuals in disadvantaged communities with limited job skills.

With respect to the impact on tourism and recreational activities, the City has serious concerns regarding the socioeconomic impacts of the project, both during and post project. Currently, thousands of visitors throughout the year visit the Dam to take the tours and utilize the boat ramp and docking facilities at Centimudi and Digger Bay Resort. Cessation of the tours and closures of the boat ramps would result in lost revenue for local stores, service stations, and supermarkets. The majority of this economic disruption would be borne by the City.

Pursuant to federal Environmental Justice regulations, the DEIS should discuss specific outreach strategies used to contact low-income members of our City. The DEIS should discuss what personal interviews were conducted with homeowners, tenants, businesses, business organizations, local schools and public health agencies within our City. Describe innovative methods used to overcome cultural, economic and other barriers and how members of this disadvantaged community were specifically encouraged to participate in the review process.

Please provide the City with a list of all homeowners, tenants, businesses, business organizations, local schools and public health agencies within our City limits who received, either by mail or by hand-delivery, written materials and/or meeting notices to inform them of the project, how they could obtain additional information about the project and where a hard-copy of the entire document, including appendices and referenced documents, could be viewed.

WATER

There are sections of the DEIS that contain incorrect statements or misrepresentations regarding water.

Chapter 21, page 21-5, lines 18-20 states the City has an input capacity of 5.0 Million Gallons per day (MGD) of raw water. This is incorrect. Pursuant to the *Supplemental Water Supply Feasibility Study* referenced below, the City's maximum input capacity of the 16-inch pipe in the face of the Dam is 9.3 MGD. Please make this correction.

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Chapter 21, page 21-8, under Shasta Community Services District (SCSD), states, "SCSD...was formed in 1959 to supply water for domestic use and fire protection for the City of Shasta Lake and adjacent developed areas...". This is incorrect. We believe the authors mean the town of Old Shasta, which is a State of California Historic area and is within the boundaries of the Shasta CSD. There is no connection between the Shasta CSD and the City of Shasta Lake and never has been. Please make this correction.

City of Shasta Lake Water Supply System

The City's present water supply system consists of an intake piping system from inside Shasta Dam, a raw water pump station at the base of the dam, a treatment plant above Fisherman's Point, and a transmission main along Lake Boulevard. This water is pumped to the City's water treatment plant above the Dam to the east and in turn, the City supplies treated water to the Shasta Dam Administrative and Construction Maintenance facilities complex as well as residents and businesses of the City who depend on it for their livelihoods. Failure of any portion of the City's water supply or transmission system would be catastrophic to the City.

The City's water intake facilities utilize some of the ten-inch pipelines that are associated with the eight-foot diameter Dam spillway discharge tubes at the 950 and 750 foot elevations (four existing connections at the 950 foot level and three existing connections at the 750 foot level). In addition to the existing connections, there are eight tap locations at the 850 foot level which could be connected to the City's raw water intake system.

The current net design capacity available to the City of Shasta Lake is estimated at about 9.0 MGD. According to the City's General Plan and 2004 update to the City's Master Water Plan, the City will need to develop a new water supply system that is capable of being expanded to provide up to 9.5 MGD of treated water on a maximum daily demand basis.

As recommended in the *Supplemental Water Supply Feasibility Study, March 2007*, prepared by Pace Civil, Inc. for the City of Shasta Lake, Bella Vista Water District and Mt. Gate Community Services District, connections to one additional ten-inch pipeline at the 750 foot level and six additional ten-inch pipelines at the 850 foot level would provide sufficient flexibility and reliability to yield sufficient supplemental raw water flow needed for the City of Shasta Lake and Mt. Gate Community Services District at lake level elevations of about 865 feet and higher. Based on preliminary discussions with BOR at the time the report was prepared, it appears feasible to construct the needed piping improvements within the existing Dam corridors, similar to the retrofit piping that was installed in 1958.

The DEIS needs to analyze this option and discuss how the increase in the impounded water and enlargement of the cold water pool (CWP), particularly in CPs 3 through 5, will impact and enable the City's ability to secure an additional long-term water supply (see water supply discussion below).

As stated above, the raw water supply for the City is via a 16-inch pipe attached to the face of the Dam with intakes at the 950 and 750 foot levels. Significant construction work is proposed in the area of these intakes to alter the Temperature Control Device and raise the Dam crest. The DEIS needs to include mitigation measures to ensure that turbidity in the area of these intakes created by the construction work will be minimized and identify available remedies in the event turbidity exceeds state-mandated maximum acceptable levels.

Significant turbidity increases could result in the cost of additional treatment to not just marginally increase, but increase by multiplicative factors. The DEIS needs to analyze impacts to the City in the event additional treatment is required to remove turbidity from our drinking water and identify the method of reimbursement to the City for costs incurred as a result of the requirement for additional treatment.

The DEIS needs to include mitigation measures to protect the City's entire water treatment and transmission infrastructure, including the water intakes and pipelines inside the Dam, exposed intake pipeline on the face of the Dam, the raw water pump station at its base, and all associated water transmission and electrical facilities between the Dam, the water treatment facility, and distribution system intertie at Lake Boulevard and Red Bud Lane.

There are other municipal water supply intakes in Shasta Lake. The DEIS needs to explicitly address these intakes and include appropriate mitigation measures to ensure impacts are less than significant.

City of Shasta Lake Water Contract

The City has an executed water transfer agreement with a local Settlement contractor who has a diversion below the Dam. This agreement provides for the transfer of up to 2,000 acre feet (AF) per year of Central Valley Project (CVP) water above the Dam to the City's intakes. BOR has not approved this transfer because of purported impacts to the CWP under some water supply scenarios.

The City's challenge and goal has been to use the most cost effective method to maintain the integrity of the CWP while protecting the City against a water shortage during drought periods and preparing for inevitable growth. The City has investigated several options to meet this goal; however, the methods investigated to date either would not fully mitigate the depletion of the CWP or are not economically feasible. In addition, as documented in the City's 2004 update to the Master Water Plan (*Evaluation of Feasibility for Ground-Water Supply for the City of Shasta Lake*), the geology under the City precludes the development of any commercially viable fresh water wells. The City is reliant solely on surface water allocations and transfers.

As partial mitigation for the social disruptions, traffic impacts, and revenue losses predicted for this disadvantaged community, the City requests BOR dedicate 4,600 AF of the newly impounded water to the City's base allocation of 4,400 AF, increasing its total long-term allocation to 9,000 AF. This would secure a sufficient water supply through build-out of the City's General Plan for new and expanded residential, public, commercial and industrial uses. This dedication should include the same rights in terms of cutbacks and transfers as was afforded to a local private entity that received such an allocation in connection with the removal of the Seltzer Dam on Clear Creek.

ELECTRICAL SERVICE / POWER

There are several sections in the DEIS and supporting documents that contain incorrect statements or misrepresentations regarding electrical facilities and power.

Chapter 21, Section 21.1.5 – page 21-17 - Electrical Service and Infrastructure, beginning with line 40, should be corrected to read: "Pacific Gas and Electric Company (PG&E), *the City of Redding (COR)*, and *the City of Shasta Lake (COSL)* provide electrical service to Shasta Lake and vicinity."

The existing sentence implies that PG&E is the only electric service provider in the area. This is incorrect. The City of Shasta Lake has been providing electric service to the Shasta Dam Area since 1946. Its predecessor, the Shasta Dam Area Public Utility District, began by taking 13.8kV service from the BOR at the Dam.

Chapter 21, Section 21.1.5 – page 21-18 – beginning at line 24, should be revised to read: "*The City of Anderson, outlying rural areas of Shasta County, and Tehama County (Red Bluff and Corning)* receive electrical service from PG&E."

Shasta Lake Water Resources Investigation Duplicate DEIS Public Comments Appendix

The following paragraph should be added:

"The City of Shasta Lake is a load serving entity and retail distribution provider of electrical energy to the City's 4,500 current electric customers. The City of Shasta Lake owns and operates a looped 115kV system, which delivers energy to two 115/12kV distribution substations that step the voltage down to 12kV for delivery to the City's end users. The system is managed by the City and assisted by the City of Redding Electric Utility for ancillary services. In total, the City's distribution system has 15 miles of 115kV sub transmission and approximately 67 miles of overhead and underground 12kV distribution lines. The City has two points of delivery: One made to the Flanagan 230/115kV transmission substation and the other at Keswick Dam switchyard. The City has a base resource allocation from the Western Area Power Administration (WAPA), who delivers the energy to the City from Shasta and Keswick Dams. The City also has a supplemental energy agreement with the City of Redding. The City of Shasta Lake is also the retail energy provider to the Digger Bay Marina, and the Centimudi Boat Ramp and the Fisherman's Point Picnic Area Facilities."

In addition, as partial mitigation for the social disruptions, traffic impacts, and revenue losses predicted for this disadvantaged community, we request that BOR grant the City's Electric Utility First Preference customer status (as other similarly situated utilities have been granted) to the added generation output attributed to the increased reservoir capacity.

The City of Shasta Lake Electric Utility will provide additional comments under separate cover on issues directly related to power production as portrayed in the DEIS.

TRAFFIC AND TRANSPORTATION

As stated in the DEIS, Chapter 20, page 20-9, import of fill and construction materials and export of construction waste would result in 95-177 truck trips per day for up to 5 years; export of vegetation would result in 52-75 round trips per day for up to 3.5 years; and the construction labor force would add 300-360 daily round trips for up to five years. This has the potential to result in significant impacts to the City's circulation system.

Currently, SR 151 and Lake Boulevard loop from their intersection near the westerly edge of the City past the Shasta Dam complex and back. The plan suggests that significant alterations will take place in the area of the current roundabout and rotunda near the security offices associated with the reconstruction of the left abutment of the Dam.

The DEIS needs to discuss specific efforts that will be made to ensure that this loop configuration remains operational and will be continued throughout the construction process. The City believes maintaining this loop configuration is vital to traffic flow for local users, recreational users, cyclists, sportsmen, law enforcement, fire and any other users of the facility.

The project proposes to move in excess of 100,000 cubic yards of rock and gravel through City streets for up to five years. The DEIS states there are adequate quarries to provide the needed material. There also is significant exposed rock between the existing high water mark and the proposed high water mark which could be excavated and barged to the Dam, thereby eliminating the need to disrupt surface streets. The DEIS needs to discuss this resource and method of material movement as an alternative that would lessen environmental impacts.

The DEIS references SR 151 and Lake Boulevard as the main routes to be used in conjunction with construction of the proposed project. Because SR 151 runs through the City's Central Business District, the preferred route for the movement of personnel and materials through the City is via Pine Grove Avenue west to Lake Boulevard.

The City is concerned that Pine Grove Avenue and Lake Boulevard may not be structurally sufficient to handle the additional heavy vehicle trips that will be needed to transport materials. Mitigation should require analysis of the structural integrity of City roadways, particularly Pine Grove Avenue and Lake Boulevard, to ensure they are sufficient to accommodate the weight and frequency of project traffic. The analysis should be completed prior to commencing construction activities.

Because of the number and frequency of trucks that would travel SR 151, should that become the main access route for project-related traffic, there are several intersections that would operate at an unacceptable level of service (LOS). For example, the intersection of SR 151 and Shasta Way/Shasta Street; intersections along SR 151 between Cascade Boulevard and the Union Pacific Railroad within the City's Central Business District; and the intersection of SR 151 and Shasta Park Drive. These intersections need to be analyzed in terms of vehicular, bicycle and pedestrian safety with appropriate mitigation measures applied. Sight distance is a particular concern at many of these intersections.

Mitigation measures should include the requirement for a pre-construction meeting between BOR and the City, and the requirement that the City be involved in review and approval of the Traffic Control and Safety Assurance Plan identified as mitigation in the DEIS.

In addition, the City requests mitigation to require a Road Maintenance Agreement between BOR and the City outlining a repair schedule and/or compensation methods for the repair of roadways that are degraded as a result of project-related traffic.

As a general comment, it should be noted that the underpass of the Union Pacific Railroad on SR 151 has an impeded vertical clearance of 13'-9" which may divert additional large loads to Pine Grove Avenue.

HAZARDS / HAZARDOUS MATERIALS

The City is concerned with the introduction and transportation of highly flammable and/or explosive materials within a high fuel load area with limited access and surrounding steep terrain. The DEIS needs to provide the specific type, quantity and frequency of delivery of explosives and other hazardous waste and materials to and from the project site.

Lake Boulevard will be used as a main access route to the Dam during project construction. This stretch of roadway is developed primarily with single-family residential uses. In addition, Mountain Lakes High School is located on the northeast corner of Lake Boulevard and SR 151, and a heavily used community park is located just east of this intersection. A hazardous materials spill or fire in this area would be catastrophic.

Chapter 9, Hazards and Hazardous Materials and Waste, discusses this issue under Impact Haz-4 and identifies "*Exposure of Sensitive Receptors to Hazardous Materials*" as potentially significant.

Mitigation Measure Haz-4 includes the requirement that a public liaison be appointed to communicate hazardous material transportation routes related to project activities with the public. The mitigation measure should specifically state that a public meeting will be conducted at a location within the City of Shasta Lake.

Shasta Lake Water Resources Investigation Duplicate DEIS Public Comments Appendix

The mitigation measure also states, in part, "*Reclamation will coordinate hazardous materials transportation routes with...a representative from the Shasta Lake Elementary School...*" Shasta Lake School is only one of the schools within the City limits. This list needs to be amended to include *Gateway Unified School District, Central Valley High School, Mountain Lakes High School, Grand Oaks Elementary School and Shasta Lake School.*

Although Chapter 22, Table 22-1 (Key Public Service Providers) includes *Shasta Lake Fire Protection District* under Fire Protection Services, no other section of the DEIS includes any reference to them. Chapter 22, Page 22-4, Line 6 needs to be revised to state "*The Shasta Lake Fire Protection District provides fire protection within the City of Shasta Lake...*"

The Shasta Lake Fire Protection District (SLFPD) would be the first responder in the event of an emergency within the City. All applicable Chapters of the DEIS, including but not necessarily limited to Chapter 9 and Chapter 22, need to reference SLFPD in discussions of emergency services and fire protection.

Mitigation Measure PS-2 (Provide Support to Public Services Agencies) states, "*Reclamation will provide affected public services providers (e.g., law enforcement, fire protection, emergency services) with sufficient funding and support to ensure that levels of public services are not substantially degraded by construction activities. Reclamation will coordinate with affected providers to develop a mutual understanding of the amount and schedule of financial and administrative support required to reduce this impact to a less-than-significant level.*"

Provisions need to be included to ensure SLFPD, in addition to all other local services providers, is included in all discussions regarding the provision of emergency and fire protection services related to this project and all discussions related to reimbursement agreements for such services.

RECREATIONAL FACILITIES

Centimudi Boat Ramp is a heavily used fishing and recreational access point for Lake Shasta near the Dam. Based on the past 25 years of water levels and taking into consideration the new high water mark proposed in CP-3 through 5, the DEIS should discuss how many days it is expected that the existing lower boat ramp will be under water on an annual basis. Also, it is the City's view that a certain amount of the new impound should be reserved for recreational use above the Dam until September 1 of each year. In addition, the City requests staging areas during construction be situated so parking at the boat ramps remains functional throughout the duration of project construction.

The U.S. Forest Service (USFS) operates and/or permits numerous boat ramps, public accesses, cabins, and campgrounds around the Lake. The City recently learned the USFS is proposing to reduce the number of marinas on the Lake if the Lake level is raised. The USFS has been moving away from developments that require maintenance and toward human exclusion. This is not appropriate on a manmade lake. The USFS should maintain and/or replace existing cabins, cabin leases, campgrounds, boat launches and docks, including any that are impacted by this project. Any reduction of private recreational opportunities on or around the Lake is not compatible with the goals of our City for future viability and growth.

The DEIS is devoid of descriptions of what will exist for recreational facilities upon project completion, and this needs to be further analyzed with appropriate mitigation measures incorporated. Secondary economic effects to the City of Shasta Lake as a result of the loss of resorts, marinas, campgrounds, restaurants, motels, grocery stores and service stations needs to be addressed.

In addition, security devices have been added to each end of the Dam. The design of the raised roadway should consider security enhancements to the railings along the roadway and to the elevator towers above the powerhouse so tourists and local citizens could once again enjoy freer vehicular access across the Dam's roadway.

REAL ESTATE

The DEIS notes that private property takings are a concern. This understatement fails to delineate an acceptable path forward. BOR should have procedures in place to ensure that private property owners are made whole and those businesses desiring to continue to operate are accommodated. The DEIS needs to include a description of the property acquisition processes. This will improve transparency and allow interested parties to make informed decisions.

The DEIS notes that raising the Dam 18.5 feet would inundate 160 buildings. Residences within 20 feet of the new pool elevation may also be relocated. The City seeks assurances that all such affected properties will be replaced in kind. Private property owners shall end up with acreage, frontage, improvements and access that equals or exceeds their existing holdings. The City understands such a provision would necessitate a special act of Congress. The DEIS should outline congressional actions which would be necessary to continue private property ownership at a new, higher elevation.

There may be instances where septic systems and/or leach fields may be above the new high water mark but not have sufficient setbacks to meet State water quality mandates within the buffer zone. Provisions need to be made to relocate these facilities out of the buffer zone or provide exemptions that would allow them to remain.

CUMULATIVE IMPACTS

The DEIS does not include other proposed local projects in the cumulative impact analysis. There are currently at least two pending projects that should be considered cumulatively, and BOR should contact all local jurisdictions to discuss approved and pending projects that should be included in the analysis.

For example, Shasta County is in the process of completing a Draft Environmental Impact Report (DEIR) for Moody Flats Quarry. This project site is adjacent to the City's northerly city limit, southeast of the Shasta Dam complex. The proposed Quarry also proposes to utilize SR 151 during a portion of their construction operations. In addition, the City is in the process of completing a DEIR for a mixed-use development on 600 acres at the northeasterly section of the City. This project could result in the construction of approximately 1,600 dwelling units and 200,000 square feet of commercial uses and should be considered in the cumulative impact analysis.

CONCLUSION

Due to the extensive nature of this project, it is anticipated BOR will be required to provide additional information, analysis and supporting studies and documentation in response to comments on the DEIS. For this reason, the City requests recirculation of the revised DEIS following incorporation of the additional information to allow the public opportunity for additional review and comment.

Due to the voluminous nature of the DEIS and anticipated outreach to other members and groups in our community who may not have had an ample opportunity to review the DEIS, as discussed under Socioeconomic Impacts above, the City requests the revised DEIS be recirculated for a minimum of 90 days. Because many of our citizens do not have access to a computer or reliable transportation, the City requests a copy of the revised DEIS be provided to the Shasta Lake Gateway Library, 1646 Stanton Drive, Shasta Lake, CA, for public review.

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

If you have any questions, please feel free to contact me or John Duckett, City Manager, at 530.275.7427.

Sincerely,



Larry J. Farr
Mayor

c: Members of the Shasta Lake City Council
John S. Kenny, City Attorney
John N. Duckett, Jr., City Manager
Tom Miller, Assistant City Manager
Jeff Tedder, City Engineer
William Bishop, Water Treatment Superintendent
Carla L. Thompson, AICP, Development Services Director
Adrian Rogers, Chief, Shasta Lake Fire Protection District
Brian Person, Area Manager, Bureau of Reclamation Northern California Area Office

D-SCVWD Duplicate of L-SCVWD

10/23/13 DEPARTMENT OF THE INTERIOR Mail - Fwd: Santa Clara Valley Water District's comments on Draft EIS for Shasta Lake Water Resources Investigation



DUNCAN, KATHLEEN <kduncan@usbr.gov>

Fwd: Santa Clara Valley Water District's comments on Draft EIS for Shasta Lake Water Resources Investigation

1 MESSAGE

KATRINA CHOW <kchow@usbr.gov>
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Wed, Oct 23, 2013 at 1:10 PM

Sent from my iPhone

Begin forwarded message:

From: Sherwood Garcia <sgarcia@valleywater.org>
Date: September 30, 2013, 6:26:28 PM PDT
To: "BOR-MPR-SLWRI@usbr.gov" <BOR-MPR-SLWRI@usbr.gov>, "kchow@usbr.gov" <kchow@usbr.gov>
Cc: Cindy Kao <CKao@valleywater.org>, Joan Maher <JMaher@valleywater.org>
Subject: Santa Clara Valley Water District's comments on Draft EIS for Shasta Lake Water Resources Investigation

Ms. Chow —

Please find attached the comment letter from Santa Clara Valley Water District (SCVWD) regarding the Draft Environmental Impact Statement for the Shasta Lake Water Resources Investigation. Also attached is the comment letter from the San Luis & Delta-Mendota Water Authority regarding the same subject.

If you have any questions regarding the SCVWD comments, please contact Ms. Cindy Kao at 408-630-2346.

We are sending you the original by mail.

Thank you,


Sherwood Garcia

3 attachments

Santa Clara Valley
Water District

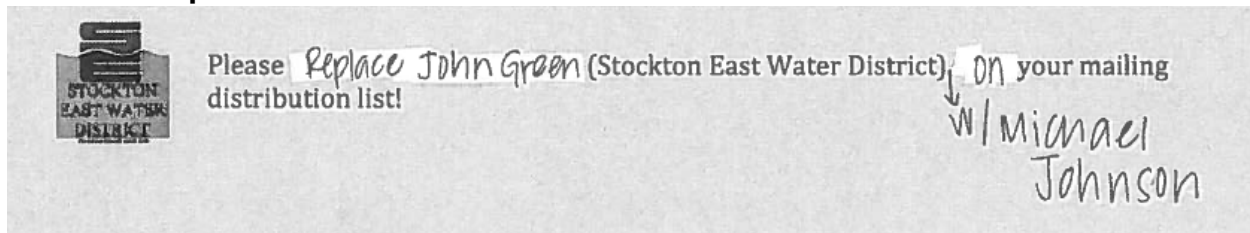


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 093013 SCVWD Comment Ltr to USBR re Draft EIS-Shasta.pdf
765K

 SLDMWA Comments on Shasta Draft EIS (final pdf - reduced size).pdf
4789K

D-SEWD Duplicate of I-SEWD



D-SCVWD Duplicate of L-SCVWD

5250 Almaden Expressway, San Jose, CA 95118-3612 | (408) 265-2600 | www.siliconvalleywater.org



September 30, 2013

Ms. Katrina Chow, Project Manager
U.S. Bureau of Reclamation, Planning Division
2800 Cottage Way
Sacramento, CA 95825
E-mail: BOR-MPR-SLWRI@usbr.gov; kchow@usbr.gov

RECEIVED		
OCT 1 2013		
DATE	ACTION	BY
10/1/13	RECEIVED	K Duncan
10/1/13	RECEIVED	K Chow

Subject: Santa Clara Valley Water District's Comments on the Draft Environmental Impact Statement for the Shasta Lake Water Resources Investigation, Dated June 2013

Dear Ms. Chow,

Thank you for the opportunity to comment. This letter is in reply to the Bureau of Reclamation (Reclamation) notice, dated July 1, 2013, regarding the release of the June 2013 Draft Environmental Impact Statement for the Shasta Lake Water Resources Investigation (DEIS).

The Santa Clara Valley Water District (Santa Clara) supports the enlargement of Shasta Dam and Reservoir. Expansion of the reservoir has the potential to increase the flexibility of the Central Valley Project (CVP) and offset the effects of operating restrictions that have reduced the water supply available to meet the purposes of the CVP. We applaud Reclamation's efforts to produce the DEIS; however, there are several issues that must be addressed before the document is finalized. These are described in detail in the comment letter on the DEIS provided by the San Luis and Delta Mendota Water Authority (SLDMWA), dated September 30, 2013 (attached), which Santa Clara adopts and incorporates. Of particular concern is the lack of an alternative in the DEIS that is aimed at increasing the yield of the reservoir to serve the purposes of the CVP. As recommended in the letter of the SLDMWA, a new alternative should be crafted that reflects this approach, and the project purpose statement should be modified to focus on improving the operational flexibility of the CVP. The CVP project purposes include protection of fish and wildlife, mitigation of project impacts, and support of irrigation and municipal and industrial water needs, as well as power generation.

We appreciate the opportunity to review the document and would be happy to meet to discuss our comments and concerns further.

Sincerely,


Cindy Kao
Imported Water Unit Manager

Attachment

SCANNED

Classified as:	ENV-5-01
Project	214
Control No.	13045103
Folder ID	1230437
Date Input & Initiated	23 27 13 JV

Our mission is to provide Silicon Valley safe, clean water for a healthy life, environment, and economy.



September 30, 2013

Katrina Chow, Project Manager
U.S. Bureau of Reclamation, Planning Division
2800 Cottage Way
Sacramento, CA 95825
Email: BOR-MPR-SLWRI@usbr.gov; kchow@usbr.gov

RE: Draft Environmental Impact Statement for Shasta Lake Water Resources Investigation (June 2013)

Dear Ms. Chow:

The San Luis & Delta-Mendota Water Authority (Water Authority)¹ supports enlargement of Shasta Dam and Reservoir. Through the Central Valley Project (CVP), United States Bureau of Reclamation (Reclamation) develops water that: (1) protects, restores, and enhances fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California; (2) addresses impacts of the CVP on fish, wildlife and associated habitats; (3) supports agriculture; (4) supports municipal and industrial needs; and (5) generates power. Unfortunately, over the last three decades in particular, Reclamation's ability to develop water to meet these purposes, especially to provide water supply and hydropower, has been significantly compromised. If Congress authorizes enlargement of Shasta Dam and Reservoir, it should help restore the ability of Reclamation to operate the CVP to meet its purposes.

¹ The Water Authority submits this comment letter on behalf of its member agencies. The Water Authority was formed in 1992 as a joint powers authority and consists of 29 member agencies, 27 of which contract with Reclamation for supply of water from the federal CVP. The Water Authority's member agencies collectively hold contracts with Reclamation for the delivery of approximately 3.3 million acre-feet of CVP water. CVP water provided to the Water Authority's member agencies supports approximately 1.2 million acres of agricultural land, as well as more than 100,000 acres of managed wetlands, private and public, in California's Central Valley. The Water Authority's member agencies also use CVP water to serve more than 1 million people in the Silicon Valley and the Central Valley. Each of the Water Authority member agencies is listed in Attachment 1.

Katrina Chow, Project Manager
U.S. Bureau of Reclamation, Planning Division
September 30, 2013
Page 2

In most respects, the June 2013 Draft Environmental Impact Statement for the Shasta Lake Water Resources Investigation (Draft EIS) identifies the impacts on the human environment caused by enlargement of Shasta Dam and Reservoir. However, there are four critical areas where additional information or revisions are needed before the Draft EIS is finalized. The additional information and revisions will help demonstrate the importance of an enlarged Shasta Dam and Reservoir to the CVP, and specifically how this action will help restore the ability of Reclamation to operate the CVP to achieve its purposes.

1. Purpose And Need: The Draft EIS presents the purpose of the action as: "The purpose of the proposed action is to improve operational flexibility of the Sacramento-San Joaquin Delta (Delta) watershed system by modifying the existing Shasta Dam and Reservoir to meet specified primary and secondary project objectives." (Draft EIS at 1-5.) That statement is accurate, but Reclamation should refine it to reflect the federal interest in and Congressional authorization for Shasta Dam and Reservoir, as a part of the CVP. The Water Authority recommends the following:

"The purpose of the proposed action is to improve operational flexibility of the Central Valley Project ~~Sacramento-San Joaquin Delta (Delta) watershed system~~ by modifying the existing Shasta Dam and Reservoir to meet specified primary and secondary project objectives."

2. Alternatives: The Draft EIS identifies a range of alternatives, which, when analyzed, presents information that was useful to the Water Authority and will undoubtedly be useful to Reclamation as it develops a Record of Decision. The Water Authority respectfully requests that Reclamation consider adopting an alternative that combines elements of the existing alternatives considered in the Draft EIS. Specifically, the Water Authority believes the purpose and need for the action, when considered with the federal interest in and Congressional authorization for the CVP, supports selecting an alternative that increases the height of Shasta Dam and Reservoir by 18.5 feet. The increased yield generated by the action should be dedicated, at the first and primary priority, to serve CVP purposes (i.e., all increased yield is considered part of the total annual CVP yield). Then, only if and for the period when the yield could not be beneficially used by CVP should Reclamation seek to sell that water to users outside of the CVP, including to the State Water Project.² The temporary sale of the water would help to repay the Federal investment in the CVP, until it can be dedicated to CVP purposes.

3. Sensitivity Analyses: The enlargement of Shasta Dam and Reservoir will increase the yield of the CVP. However, as history has shown, how Reclamation beneficially uses that yield will likely change over time. The Draft EIS considers the ability of Reclamation to use the yield based on operations under the existing operational criteria, infrastructure, and specific regulations. While the Water Authority appreciates the need to analyze the effects of the action

² The Water Authority supports including additional elements presented in the Draft EIS (e.g., Augment Spawning Gravel, Restore Riparian, Floodplain, & Side Channel Habitat, and/or Mitigation Measures) in the action.

Katrina Chow, Project Manager
U.S. Bureau of Reclamation, Planning Division
September 30, 2013
Page 3

with those constraints, the Water Authority recommends that, in addition, Reclamation conduct “sensitivity analyses” that consider the benefits to the CVP increased yield from enlargement of Shasta Dam and Reservoir with new infrastructure, different operational criteria, and different regulations. Such sensitivity analyses are appropriate for an action, like enlargement of Shasta Dam and Reservoir, which has such long-term planning and operational horizons.

4. Ability To Use Information In The Draft EIS For CEQA Compliance: The Draft EIS indicates: (1) Reclamation prepared it in accordance with the California Environmental Quality Act (CEQA), and (2) the Draft EIS could be used by any State of California agencies involved in reviewing and issuing permits or other approvals for the project. (Draft EIS at I-1.) The Water Authority agrees. The information developed in the Draft EIS will substantially assist with CEQA compliance. However, the Draft EIS should be revised in three respects. First, the Draft EIS should acknowledge that the CEQA lead agency has the vested responsibility to ensure CEQA is satisfied, and, as a result, for example, the CEQA lead agency: (a) may identify alternatives (including the environmentally preferred alternative) and render conclusions different from those presented in the Draft EIS, and (b) has discretion to determine the significance of environmental impacts and potentially feasible mitigation for any such impacts. Second, the Draft EIS should leave open the possibility that the Draft EIS would be used, not only by “State of California permitting agencies”, but also local agencies within California. And, third, aspects of the Draft EIS could be supplemented to better provide the information required under CEQA.

The Water Authority attaches hereto more detailed comments. (See Attachment 2.) I, or a member of my staff, will contact you to schedule a meeting during which we can discuss the Water Authority’s comments.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Nelson", written in a cursive style.

Daniel Nelson
Executive Director

ATTACHMENT 1

San Luis & Delta-Mendota Water Authority Member Agencies

Banta-Carbona Irrigation District
Broadview Water District
Byron Bethany Irrigation District (CVPSA)
Central California Irrigation District
City of Tracy
Del Puerto Water District
Eagle Field Water District
Firebaugh Canal Water District
Fresno Slough Water District
Grassland Water District
Henry Miller Reclamation District #2131
James Irrigation District
Laguna Water District
Mercy Springs Water District
Oro Loma Water District
Pacheco Water District
Pajaro Valley Water Management Agency
Panoche Water District
Patterson Irrigation District
Pleasant Valley Water District
Reclamation District 1606
San Benito County Water District
San Luis Water District
Santa Clara Valley Water District
Tranquility Irrigation District
Turner Island Water District
West Side Irrigation District
West Stanislaus Irrigation District
Westlands Water District

ATTACHMENT 2

I. The Draft EIS Provides Substantial And Important Information That Will Assist Reclamation With Its Decision On The Proposed Action

The Draft EIS does not identify a preferred alternative. The Draft EIS explains this is because the Council on Environmental Quality's Proposed National Objectives, Principles, and Standards for Water and Related Resources Implementation Studies calls for allowing public input before a final action is recommended or selected. (Draft EIS at 1-35.) This is wise policy. The Draft EIS considers three different expansion heights for Shasta Dam – 6.5 feet, 12.5 feet, and 18.5 feet. The analysis in the Draft EIS concludes that an 18.5 foot raise will yield more water for the CVP and thus more benefits for CVP purposes, including environmental, agricultural, and municipal uses, than lesser elevations for only a relatively modest additional cost – making the 18.5 foot height the most efficient and economical of those considered in the Draft EIS. The Water Authority agrees with that conclusion, and supports the 18.5 foot raise. However, specific refinements and additional analyses are recommended. The Water Authority provides comments in the cover letter and sections below with the hope they will improve the Draft EIS before Reclamation finalizes it and to assist Reclamation in developing its Record of Decision.

II. The Draft EIS Would Benefit From Specific Refinements

A. The Draft EIS Should Be Revised To Reflect That Enlargement Of Shasta Dam And Reservoir Are Important Steps Toward Restoring Reclamation's Ability To Fulfill CVP Purposes Authorized by U.S. Congress

The enlargement action addresses a pressing need to improve Reclamation's ability to achieve the purposes for the CVP. Initially, in the Rivers and Harbors Act of 1937, Congress authorized the CVP for the purposes of "improving navigation, regulating the flow of the San Joaquin River and the Sacramento River, controlling floods, providing for storage and for the delivery of the stored waters thereof, for the reclamation of arid and semiarid lands and lands of Indian reservations, and other beneficial uses, and for the generation and sale of electric energy." (Act of August 26, 1937, Pub. L. No. 75 392, 50 Stat. 844, 850; see Rivers and Harbors Act of 1940, Pub. L. No. 76 868, 54 Stat. 1198, 1199-2000.) In 1992, these purposes were expanded to include the "mitigation, protection, and restoration of fish and wildlife." (Central Valley Project Improvement Act (CVPIA), Title 34 of Pub. L. No. 102-575, 106 Stat. 4706 (1992), § 3406(a)(1).) Today, Reclamation faces enormous challenges in fulfilling all of those CVP purposes, and, without such investments in the proposed action, doing so in the future is only going to become more difficult.

The Water Authority's member agencies have long relied on CVP water, and, for at least the last two decades, have faced increasing challenges to maintain the agricultural and urban economies they support. Since the early 1990s, the quantity and reliability of water Reclamation can deliver to the Water Authority's member agencies for irrigation, municipal and industrial purposes has significantly declined. In addition, Reclamation's ability to secure water for wildlife refuges, specifically Level 4 refuge supplies, has been challenging. During that same

time period, significant responsibilities have been imposed on Reclamation to dedicate CVP water for the protection of anadromous and pelagic fish; these responsibilities at times create conflicts (i.e., dedication of water for Delta outflow versus reservation of water in reservoirs to maintain cold water for salmon). During this time of increased CVP responsibilities, anadromous and pelagic fish populations have not improved and in many cases have degraded. The Draft EIS recognizes these facts. (See e.g., Draft EIS at 1-13.) The additional yield from enlargement of Shasta Dam and Reservoir will reduce the conflict and tension between the existing beneficial uses of CVP water and be an important step towards restoring Reclamation's ability to achieve the purposes of CVP.

B. Reclamation Should Refine The Purpose Statement To Reflect The Importance Of Improving Reclamation's Ability To Operate The CVP To Meet Its Authorized Purposes

The Draft EIS includes a broad purpose statement, which is to "improve operational flexibility of the Delta watershed system through modifying Shasta Dam and reservoir to meet specified primary and secondary project objectives." (Draft EIS at 5.) This statement should be refined to focus on the CVP. Such a refinement would comport with and recognize that the action proposes to augment an existing CVP facility, and it would also be consistent with Congressional intent, including that specified in the CVPIA. (CVPIA § 3402 (discussing a purpose of the CVP is to improve operational flexibility, CVPIA § 3408(j) (providing for the development of a plan to improve CVP yield).)

C. Reclamation Should Assess The Sensitivity Of The Impacts Of The Alternatives To Changes In Operational Criteria, Infrastructure, And Specific Regulations

Consistent with the need to improve Reclamation's ability to operate the CVP to meet CVP purposes, Reclamation should assess the sensitivity of the alternatives with changes in operational criteria, infrastructure, and specific regulations. The Water Authority recognizes that at this time changes in operational criteria, infrastructure, and specific regulations may still be years away. However, the suggested sensitivity analyses would complement the existing analyses of the different expansion heights for Shasta Dam and are reasonable and appropriate given the long-term 100-year operational and planning horizons to inform the public and decision makers of the actual long-term potential benefits to CVP yield of enlarging Shasta Dam. At a minimum, Reclamation should consider the sensitivity of its estimates of increased CVP yield to: (1) relaxation in the restrictions currently imposed on the CVP pursuant to the federal Endangered Species Act, (2) changes in the manner the Department of the Interior implements CVPIA actions and programs, (3) increases in the capacity of the CVP to re-divert water conveyed to or through the Delta, and (4) changes in CVP operations, including those related to the coordinated operations of the CVP and State Water Project.

D. Reclamation Should Consider An Alternative That Combines Several Existing Alternatives And Preserves Reclamation's Ability To Use All Yield From Shasta Enlargement To Meet CVP Purposes

The Draft EIS includes a range of alternatives, which, when analyzed, presents information that was useful to the Water Authority and will undoubtedly be useful to

Reclamation as it develops a Record of Decision. Each alternative, however, presents a somewhat fixed set of future CVP operations to meet the CVP purposes. The Water Authority respectfully requests that Reclamation consider adopting an alternative that retains maximum operational flexibility that would essentially combine the operational parameters of several of the alternatives considered in the Draft EIS into a new alternative that gives Reclamation maximum flexibility to operate to any of the various CVP purposes, identified in the existing alternatives.

This is a reasonable alternative to include in the Draft EIS because of the 100-year planning period and operational life assumed for any alternative for Shasta Dam and Reservoir enlargement. For example, regulation of the CVP has and will likely continue to change over time. The burdens imposed on the CVP through biological opinions have evolved over time, and likely will continue to evolve. The State Water Resources Control Board's Bay-Delta Water Quality Control Plan is subject to regular review and update. New science and the benefits of restoration efforts may also cause changes in the current approaches to regulating CVP operations. These areas of regulation are further subject to change as new facilities or methods of CVP operation occur.

For these reasons, Reclamation should plan accordingly, and address the potential for changed circumstances in its NEPA analysis. That analysis and whatever alternative is selected should allow Reclamation the flexibility to dedicate the additional yield generated by the action to achieve CVP purposes, even if current constraints would prevent such uses.

E. Reclamation Should Conduct An Assessment Of Existing Water Rights It Holds For The CVP Before Assuming New Water Rights Are Needed

The Draft EIS assumes Reclamation will need to apply for and obtain new water rights from the State Water Resources Control Board to develop additional yield with the enlarged Shasta Dam and Reservoir. (Draft EIS at 1-35.) That assumption may not be correct, and the administrative actions Reclamation may need to take before the State Water Resources Control Board, if any, will likely differ depending upon the action Reclamation adopts. The Water Authority requests that Reclamation provide an assessment of the existing water rights Reclamation holds for the CVP and their consistency with the alternatives before finalizing the Draft EIS.

F. Reclamation Should Refine The Draft EIS To Acknowledge That The California Environmental Quality Act Lead Agency Will Make Independent Determinations

The Water Authority commends Reclamation for producing an environmental impact statement that substantially complies with the requirements of CEQA. The document will assist State and local agencies in complying with the California Environmental Quality Act (CEQA). In fact, CEQA authorizes and encourages use of an EIS in place of a separate EIR. (Public Resources Code §§ 21083.5, 21083.7.) However, there are several refinements that could be made to the Draft EIS, to better reflect CEQA mandates.

The Draft EIS should recognize that the CEQA lead agency has the ultimate responsibility to prepare and certify the environmental impact report. With lead agency designation comes the responsibility and the discretion to determine the significance of

environmental impacts and potentially feasible mitigation for any such impacts. The Draft EIS should state explicitly that Reclamation cannot make the CEQA determination vested with the CEQA lead agency (e.g., feasible alternatives, thresholds of significance, findings, conclusions). The lead agency must also make other determinations required by CEQA, such as identifying the environmentally preferred alternative, among others. In addition to reserving these determinations for the CEQA lead agency, Reclamation should include text in the FEIS that expressly acknowledges that the requirements of NEPA and CEQA differ, and that certain conclusions made by Reclamation under NEPA need not and may not be the same conclusions that the lead agency under CEQA will make when it exercises its independent discretion under CEQA. Finally, there are areas where augmentation would help improve the information needed to satisfy CEQA. The Water Authority welcomes the opportunity to discuss those areas with Reclamation.

III. To Ensure Proper Consideration Of Alternatives, The Analysis In The Draft EIS Should Be Augmented

A. The Draft EIS Should Expand Its Discussion Of The Impacts Of Water Shortages To The Human Environment

The no-action alternative could be supplemented to better present the ongoing negative effects caused by the existing inability of Reclamation to adequately and reliably serve agricultural, municipal and industrial water users. When the CVP was able to provide a reliable water supply, communities and viable local economies developed. But, reduced CVP water supplies have and continue to cause physical impacts related to the reliance on groundwater to substitute for lost CVP supplies. These include reduced groundwater levels from overdraft, surface subsidence, adverse impacts to crops and soil from reliance on poor quality groundwater, increased energy use, and impacts to air quality.

Shortages of CVP supplies have also caused changes in land use patterns, loss and destruction of permanent crops, and/or decreased production of existing crops. In response to reduced water supplies, farmers will fallow fields, reducing agricultural productivity directly results in layoffs, reduced hours for agricultural employees, and increased unemployment in agricultural communities. Reduced agricultural productivity also has indirect socioeconomic impacts for agriculture-dependent businesses and industries. In addition, unavailability of stable and sufficient water supplies reduces farmers' ability to obtain financing, which results in employment losses, due to the reduced acreage of crops that can be planted and the corresponding reduction in the amount of farm labor needed for that reduced acreage.

Reduced water supplies and the resulting employment losses also cause cascading socioeconomic impacts in affected communities, including increased poverty, hunger, and crime, along with dislocation of families and reduced tax-based revenues for local government services and schools. In the urban sector, reduced supplies or increased supply uncertainty can cause water rates to increase as agencies seek to remedy supply shortfalls by implementing measures to reduce demand and/or augment supplies. Connection fees and other one-time costs for new developments may also increase and further retard economic development. All these impacts were explained and found in recent federal court cases regarding NEPA impacts from reduced

CVP deliveries. (See e.g., *The Consolidated Delta Smelt Cases*, 717 F.Supp.2d 1021 (E.D. Cal. 2010), *The Consolidated Salmonid Cases*, 713 F.Supp.2d 1116 (E.D. Cal. 2010).)

Conversely, the impact analysis may not adequately capture the positive effects of improving the quantity or reliability of water to agricultural, municipal and industrial water users. In particular, the agricultural impact analysis provided in Chapter 10 of the Draft EIS does not adequately identify and explain the beneficial impacts on agriculture of delivering increased and more reliable CVP supplies that would result from Shasta Dam enlargement.

The description of the impacts to the human environment from the no action alternative and each action alternative should reflect the consequences for the human environment from shortages of CVP water. Failing to raise Shasta Dam and using additional yield to address those shortages will allow the significant adverse impacts to the human environment in the CVP service area, particularly on the west side of the San Joaquin Valley, to persist unabated. Conversely, the more an alternative will lessen CVP water supply shortages, the greater the potential benefit for the human environment in the CVP service area. Those relative consequences among alternatives should be described.

B. Reclamation Should Provide More Details About The Proposed Water Conservation Program

The Water Authority generally agrees with Reclamation's decision to include agricultural and urban water conservation in the action alternatives as a common management measure. (Draft EIS at 2-24.) However, Reclamation should clarify whether the analysis in the Draft EIS includes water conserved from this program in its estimates of the water supply increases from the action alternatives. If so, the conserved water should not be included in the cost allocation process, since those water supplies could be achieved without raising Shasta Dam. If not, the Draft EIS does not appear to provide an estimate of the water supplies generated solely by implementation of the water conservation program.

Further, the Draft EIS should describe the proposed water conservation program in more detail. What management practices or physical improvements will the program seek to implement? Would Reclamation implement these measures through existing contracts, new contracts, or some other mechanism? Also, will all CVP contractors be part of the program or only some subset? If these and other aspects of the program still need to be developed, the Water Authority would like to collaborate with Reclamation when it does so.

C. Climate Change Modeling Should Be Expanded To Each Of The Alternatives

The Draft EIS Climate Change Modeling Appendix indicates that the effects of climate change were modeled on both CP4 and CP5, but not CP3. NEPA requires an equal level of analysis for alternatives, and therefore the Draft EIS should provide a similar analysis of the effects of climate change on CP3 that allows decision makers and the public to understand the likely environmental and socioeconomic effects of CP3 given reasonable estimates of future climate change. In addition, the Water Authority's recommended new alternative (see comment II-D above), once developed, would require a similar level of analysis.

D. Additional Information On Costs And Benefits Would Improve The Economic Analyses

Information on economic costs and benefits, particularly the Draft Economic Valuation Appendix, would benefit from a more expansive discussion of the costs and benefits associated with improving the ability of Reclamation to operate the CVP to meet CVP purposes, in particular Reclamation's ability to improve water supply and reliability for municipal and industrial users of CVP water. The costs and benefits should not be limited to direct impacts, but should also consider the indirect and cumulative impacts within the communities dependent upon the CVP water.

E. The Draft EIS Should Discuss Environmental Justice Issues Within Specific Communities

Chapter 24 of the Draft EIS discusses the environmental justice aspects of the various action alternatives. Its discussion is very general and may miss important impacts that occur within specific communities – both north and south of the Delta. For example, improved CVP water supplies and reliability will likely have important environmental justice implications for communities within the San Joaquin Valley, which have been particularly hard hit with economic distress caused by the reduction of CVP water supplies and reliability. Reclamation should consider revising the environmental justice discussion to disclose the implications of changes in water supply and reliability to specific communities, including the communities of Firebaugh, Mendota, Huron and Avenal.

IV. Specific Suggested Edits

Draft EIS Page	Suggested Change / Comment
1-24	Add the following (emphasis added): "... Clifton Court Forebay into Bethany Reservoir. <u>Some of the water delivered to Bethany Reservoir is pumped at South Bay Pumping Plant for delivery through the South Bay Aqueduct to SWP contracting agencies in the San Francisco Bay Area. Most of the water</u> delivered to Bethany Reservoir flows into the California Aqueduct, the main conveyance facility of the SWP. ..."
3-17	Add the following (emphasis added): "Those three water districts ... Milpitas, Santa Clara, and San Jose, <u>among others.</u> "
3-27	Correct the release of the BDCP EIR/EIS from "spring 2013" to "fall 2013".
6-4	To be more complete, it is recommended that the Delta-Mendota Canal-California Aqueduct Intertie be included in the description of CVP/SWP service areas.
2-45 and 2-46	CP3 is described as providing agricultural water supply reliability but no improvement in increasing M&I deliveries. This conflicts with the planning consideration on page 2-7: "Alternatives should strive to balance increased water supply reliability between agricultural and M&I uses."

D-COSL1 Duplicate of L-COSL1

9/30/13

DEPARTMENT OF THE INTERIOR Mail - Correction Requested in the DEIS - SLWRI



CHOW, KATRINA <kchow@usbr.gov>

Correction Requested in the DEIS - SLWRI

10 messages

Tom Miller <Tom.Miller@ci.shasta-lake.ca.us>

Thu, Jul 18, 2013 at 4:18 PM

To: kchow@usbr.gov, sharal@usbr.gov

Cc: "John Duckett (John.Duckett@ci.shasta-lake.ca.us)" <jduckett@cityofshastalake.org>, jskenny@lawksn.com,

"Trent Drenon (Trent.Drenon@ci.shasta-lake.ca.us)" <tdrenon@cityofshastalake.org>

7-18-13

Ms. Chow – (Sheri, could you please pass this email on to Brian Person? Thx)

I began the task of reviewing the DEIS. I was disheartened to see the report incorrectly represents that the City of Shasta Lake's electricity is supplied PG&E. Chapter 21, Utilities and Service Systems, 21-18, lines 24-26.

It should read something like this:

The City of Shasta Lake is a load serving entity and retail distribution provider of electrical energy to the city's 4,500 electric customers. The City of Shasta Lake owns and operates a looped 115kV system, which delivers energy to two 115/12kV distribution substations that step the voltage down to 12 kV for delivery to the city's end-users. The system is managed by the city and assisted by Redding Electric Utility for ancillary services. In total, the city's distribution system has 15 miles of 115kV sub-transmission and approximately 67 miles of overhead and underground 12kV distribution lines. The city has two points of delivery one made to the Flanagan 230/115kV transmission substation and the other at the Keswick Dam switch yard. The city has a base resource allocation from Western Area Power Administration who delivers energy to the city from Shasta and Keswick Dams.

By the way, the city is the retail electrical energy provider to Digger Bay Marina and the Centimudi Boat Ramp.

It is important to the city that historical recognition be given to Shasta Dam Area Public Utility District, the city's (electric distribution system) predecessor, having taken 13.8kV service from Bureau of Reclamation at Shasta Dam.

I would be happy to provide any other information about the city's electric utility upon request.

Respectfully,

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

9/30/13

DEPARTMENT OF THE INTERIOR Mail - Correction Requested in the DEIS - SLWRI

Tom Miller

Electric Utility Director

City of Shasta Lake

4332 Vallecito

Shasta Lake CA 96019

(530) 275-7457 office

(530) 917-9711 cell

tmiller@cityofshastalake.org

KATRINA CHOW <kchow@usbr.gov>

Thu, Jul 18, 2013 at 5:08 PM

To: Mary Paasch <mmpaasch@gmail.com>, Danelle Bertrand <Danelle.Bertrand@us.mwhglobal.com>

Sent from my iPhone

Begin forwarded message:

From: Tom Miller <Tom.Miller@ci.shasta-lake.ca.us>
Date: July 18, 2013, 4:18:19 PM PDT
To: <kchow@usbr.gov>, <sharal@usbr.gov>
Cc: "John Duckett (John.Duckett@ci.shasta-lake.ca.us)" <jduckett@cityofshastalake.org>, <jskenny@lawksn.com>, "Trent Drenon (Trent.Drenon@ci.shasta-lake.ca.us)" <tdrenon@cityofshastalake.org>
Subject: Correction Requested in the DEIS - SLWRI

[Quoted text hidden]

KATRINA CHOW <kchow@usbr.gov>

Thu, Jul 18, 2013 at 5:09 PM

To: Mary Paasch <Mary.M.Paasch@us.mwhglobal.com>

Sent from my iPhone

Begin forwarded message:

From: Tom Miller <Tom.Miller@ci.shasta-lake.ca.us>
Date: July 18, 2013, 4:18:19 PM PDT
To: <kchow@usbr.gov>, <sharal@usbr.gov>
Cc: "John Duckett (John.Duckett@ci.shasta-lake.ca.us)" <jduckett@cityofshastalake.org>, <jskenny@lawksn.com>, "Trent Drenon (Trent.Drenon@ci.shasta-lake.ca.us)" <tdrenon@cityofshastalake.org>

9/30/13

DEPARTMENT OF THE INTERIOR Mail - Correction Requested in the DEIS - SLWRI

Subject: Correction Requested in the DEIS - SLWRI

[Quoted text hidden]

HARRAL, SHERYL <sharal@usbr.gov>

Mon, Jul 22, 2013 at 9:39 AM

To: Tom Miller <Tom.Miller@ci.shasta-lake.ca.us>, BRIAN PERSON <bperson@usbr.gov>, MICHELLE Denning <mdenning@usbr.gov>, jskenney@lawksn.com, KATRINA CHOW <kchow@usbr.gov>

Cc: "John Duckett (John.Duckett@ci.shasta-lake.ca.us)" <jduckett@cityofshastalake.org>, "Trent Drenon (Trent.Drenon@ci.shasta-lake.ca.us)" <tdrenon@cityofshastalake.org>, Janell Desmond <jdesmond@usbr.gov>

Hi Tom,

Thank you for bring this to our attention. I will pass this information on to Katrina, Brian and the rest of the SLWRI group. Someone will be getting in contact with you in the near future.

I'm sure we can work together to correct any inaccuracies in the document.

Thank you,

Sheri

Sheri Harral

Public Affairs Specialist I Bureau of Reclamation
16349 Shasta Dam Blvd. I Shasta Lake, CA 96019
Phone: 530-276-2030 I Fax: 530-275-2441

[Quoted text hidden]

PERSON, BRIAN <bperson@usbr.gov>

Mon, Jul 22, 2013 at 9:56 AM

To: "HARRAL, SHERYL" <sharal@usbr.gov>

Cc: MICHELLE Denning <mdenning@usbr.gov>, KATRINA CHOW <kchow@usbr.gov>, Janell Desmond <jdesmond@usbr.gov>

I bumped into Tom last week at a convenience store, and he indicated then he'd be sending us a clarification of their electrical power supply. He was very friendly about it.

Thanks-

[Quoted text hidden]

HARRAL, SHERYL <sharal@usbr.gov>

Mon, Jul 22, 2013 at 3:22 PM

To: "PERSON, BRIAN" <bperson@usbr.gov>

Cc: MICHELLE Denning <mdenning@usbr.gov>, KATRINA CHOW <kchow@usbr.gov>, Janell Desmond <jdesmond@usbr.gov>

Brian,

Can you contact him to see exactly what he wants to change/include or would you like me to?
Just let me know.

Thanks,

Sheri

Sheri Harral

Public Affairs Specialist I Bureau of Reclamation
16349 Shasta Dam Blvd. I Shasta Lake, CA 96019
Phone: 530-276-2030 I Fax: 530-275-2441

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

8/3/13

DEPARTMENT OF THE INTERIOR Mail - Correction Requested in the DEIS - SLWRI

[Quoted text hidden]

CHOW, KATRINA <kchow@usbr.gov>

Mon, Jul 22, 2013 at 4:32 PM

To: BRIAN PERSON <bperson@usbr.gov>, SHERYL HARRAL <sharal@usbr.gov>

Here is Tom's email regarding the incorrectly represents that the City of Shasta Lake's electricity is supplied by PG&E.

Katrina

----- Forwarded message -----

From: **Tom Miller** <Tom.Miller@ci.shasta-lake.ca.us>

Date: Thu, Jul 18, 2013 at 4:18 PM

Subject: Correction Requested in the DEIS - SLWRI

To: kchow@usbr.gov, sharal@usbr.gov

Cc: "John Duckett (John.Duckett@ci.shasta-lake.ca.us)" <jduckett@cityofshastalake.org>, jskenny@lawksn.com, "Trent Drenon (Trent.Drenon@ci.shasta-lake.ca.us)" <tdrenon@cityofshastalake.org>

[Quoted text hidden]

-

Katrina Chow

Project Manager/Civil Engineer

Bureau of Reclamation, Sacramento

2800 Cottage Way, Sacramento, CA 95825

916-978-5067

kchow@usbr.gov

HARRAL, SHERYL <sharal@usbr.gov>

Mon, Jul 22, 2013 at 4:53 PM

To: "CHOW, KATRINA" <kchow@usbr.gov>, BRIAN PERSON <bperson@usbr.gov>

Katrina,

I apologize, you already had this under control and I just took over. I only suggested Brian speak to him is because he already did in the store the other day.

This is something you and Brian should work out. Sorry for budding in.

Hope you had a nice relaxing weekend after last week!!!!

Thanks...

Sheri

[Quoted text hidden]

D-COSL3 Duplicate of L-COSL3

City of Shasta Lake

P.O. Box 777 * 1650 Stanton Drive
Shasta Lake, CA 96019
Phone: 530-275-7457
Fax: 530-275-7435
Website: cityofshastalake.org



September 27, 2013

Ms. Katrina Chow, Project Manager
Bureau of Reclamation, US Department of Interior
Planning Division
2800 Cottage Way, MP 700
Sacramento CA 95825-1893

Subject: Draft EIS for Shasta Lake Water Resources Investigation

Dear Ms. Chow:

The Electric Utility of the City of Shasta Lake (City) thanks the Bureau of Reclamation (BOR) for the opportunity to provide comments on the Draft Environmental Impact Statement (DEIS) for the Shasta Lake Water Resources Investigation (SLWRI). This letter should be used to supplement the City's overall comments to the DEIS submitted under separate cover. The City will provide additional comments on issues directly related to power production as portrayed in the SLWRI. Below please find the City's comments:

Section S.4.2 Hydropower ES-8 Lines 24-33 [Comment 1]:

This paragraph implies that the additional hydropower created by the project will contribute to satisfying the 33% renewable mandate established by Executive Orders S-14-08 and S-21-09. The City disagrees with this paragraph. Current California state legislation exempts the output of all large hydro-generation facilities in excess of 30 megawatts from being counted toward meeting the 33% renewable goal. Federal regulations do permit the inclusion of all hydro projects in meeting the Federal 33% renewable goal. California state law does not. It is recommended that any reference to renewable energy goals and the implication that the increased generation output resulting from the new impounds would meet these goals be deleted. These references are incorrect and misleading.

Section 21.1.5 Electrical Service and Infrastructure 21-17 Line 40 [Comment 2]:

The City offers that the text should be corrected to read: "Pacific Gas and Electric Company (PG&E), the City of Redding (COR), and the City of Shasta Lake (CYSL) provide electrical service to Shasta Lake and vicinity." Further, please add that the City of Shasta Lake provides retail distribution service to Fisherman's Point, Centimudi Boat Ramp, and Digger Bay Marina.

Section 21.1.5 Electrical Service and Infrastructure 21-18 – [Comment 3]:

Please correct by adding:

"The City of Shasta Lake is the successor utility to the former Shasta Dam Area Public Utility District (PUD). The PUD contracted for power with the BOR at Shasta Dam in January 1947 to serve electrical energy to people and businesses as a result of constructing Shasta Dam. The PUD received 13.8kV service from the Shasta Dam switchyard on a leased-line arrangement which began the PUD's electric distribution service. Today, the City is a load serving entity and retail distribution provider of electrical energy to more than 4,500 homes and businesses. The City is located at the heart of the Central Valley Project (CVP), Shasta Division. Because Keswick Dam is co-located between CVP divisions, the City is affected by the operations of the Upper Sacramento River Division as well. The City has two points of delivery with the Western Area Power Administration (Western). One at the Flanagan 230/115kV transmission substation and the other at the Keswick Dam 115kV switchyard. The City owns and operates a 15-mile looped 115kV sub-transmission system which delivers energy to two 115/12kV substations stepping the voltage down for delivery to the City's end-users. The City is a preference customer and receives a base resource allocation from Western's Central Valley Project generation pool via the 2004 Marketing Plan for the Sierra Nevada Region. From the electric utility's inception (67 years ago), the utility has continually taken power supply from Shasta and Keswick Dams. The City has immense pride in being the homegrown customer of the BOR at Shasta Dam."

Section 23.2.1 Regulatory Framework - Federal 23-6 Lines 20-30 [Comment 4]:

The City requests additional discussion and clarification of Western's disposition of the additional excess generation as a result of raising the dam. The City seeks First Preference Customer rights with Western for all of the City's future electrical energy needs. The City's current needs represent a mere 1.5% of the existing power output of Shasta Dam. It only takes operating the five Shasta Dam turbines, at run-of-the river flows, 106 hours to meet the City's power requirements for an entire year. Other similarly situated utilities have already been granted first preference rights from other CVP projects. The City would appreciate the BOR's support in fulfilling this request.

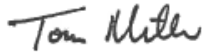
[Comment 5]: The City requests additional discussion and clarification regarding the Central Valley Project Improvement Act (CVPIA) and the SLWRI influence on the CVPIA. The City primarily takes issue with the requirement that the City invest \$200,000 annually into the CVPIA while raising the dam will benefit downstream entities that are not required to participate in the funding of CVPIA projects. Further, the CVPIA was never intended to be a perpetual program. The City is concerned that the premise of raising the dam is to benefit anadromous fish as well as the cold water pool which is duplicative to the CVPIA. Similarly, it was the initial construction of the Shasta Dam that prompted the need for the CVPIA. Therefore, will the raising of Shasta Dam further perpetuate the CVPIA? The City is opposed to any further funding of the CVPIA, or CVPIA extensions, related to the raising of Shasta Dam.

Section 23.3.2 Criteria for Determining Significance of Effects 23-9 Lines 19-37 and Table 23-1[Comment 6]:

The City takes issue with the Criteria for Determining Significance of Effects by establishing a threshold of 5 percent for hydroelectric generation. The City contends that any reduction in generation output, or any increase in pumping energy usage that reduces excess energy for Western sales, will have a negative financial impact on the City. Further, any reduced hydroelectric generation will need to be replaced with more expensive generation supply. This is financially punitive by California's renewable portfolio standard and greenhouse gas emissions reduction program (aka Cap and Trade) requirements. The City estimates that for every MWh of replacement energy purchased by the City, the City will pay an additional \$50,000 above the normal power supply cost. While this estimate is specific to the City, all Western preference customers will be faced with similar situations. For this reason, we respectfully request revision of this threshold or changing the mitigation assignment to "S – Significant."

The Electric Utility of the City of Shasta Lake hopes that the BOR finds these comments in good order. Again, the City appreciates the opportunity to provide written comments on the DEIS. The City looks forward to working with the BOR as this proposed project moves forward. If you have any questions regarding the comments in this letter, please feel free to contact me at 530-275-7457 or John Duckett, City Manager, at 530-275-7427.

Respectfully submitted,



Tom Miller
Electric Utility Director

c: Thomas Boyko, Sierra Nevada Regional Manager, Western Area Power Administration
Shasta Lake City Council
John S. Kenny, City Attorney
John N. Duckett, Jr., City Manager
Trent Drenon, Assistant Electric Utility Director

D-SLDMWA Duplicate of L-SLDMWA



September 30, 2013

Katrina Chow, Project Manager
U.S. Bureau of Reclamation, Planning Division
2800 Cottage Way
Sacramento, CA 95825
Email: BOR-MPR-SLWRI@usbr.gov; kchow@usbr.gov

RE: Draft Environmental Impact Statement for Shasta Lake Water Resources Investigation (June 2013)

Dear Ms. Chow:

The San Luis & Delta-Mendota Water Authority (Water Authority)¹ supports enlargement of Shasta Dam and Reservoir. Through the Central Valley Project (CVP), United States Bureau of Reclamation (Reclamation) develops water that: (1) protects, restores, and enhances fish, wildlife, and associated habitats in the Central Valley and Trinity River basins of California; (2) addresses impacts of the CVP on fish, wildlife and associated habitats; (3) supports agriculture; (4) supports municipal and industrial needs; and (5) generates power. Unfortunately, over the last three decades in particular, Reclamation's ability to develop water to meet these purposes, especially to provide water supply and hydropower, has been significantly compromised. If Congress authorizes enlargement of Shasta Dam and Reservoir, it should help restore the ability of Reclamation to operate the CVP to meet its purposes.

¹ The Water Authority submits this comment letter on behalf of its member agencies. The Water Authority was formed in 1992 as a joint powers authority and consists of 29 member agencies, 27 of which contract with Reclamation for supply of water from the federal CVP. The Water Authority's member agencies collectively hold contracts with Reclamation for the delivery of approximately 3.3 million acre-feet of CVP water. CVP water provided to the Water Authority's member agencies supports approximately 1.2 million acres of agricultural land, as well as more than 100,000 acres of managed wetlands, private and public, in California's Central Valley. The Water Authority's member agencies also use CVP water to serve more than 1 million people in the Silicon Valley and the Central Valley. Each of the Water Authority member agencies is listed in Attachment I.

Katrina Chow, Project Manager
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Page 2

In most respects, the June 2013 Draft Environmental Impact Statement for the Shasta Lake Water Resources Investigation (Draft EIS) identifies the impacts on the human environment caused by enlargement of Shasta Dam and Reservoir. However, there are four critical areas where additional information or revisions are needed before the Draft EIS is finalized. The additional information and revisions will help demonstrate the importance of an enlarged Shasta Dam and Reservoir to the CVP, and specifically how this action will help restore the ability of Reclamation to operate the CVP to achieve its purposes.

1. Purpose And Need: The Draft EIS presents the purpose of the action as: "The purpose of the proposed action is to improve operational flexibility of the Sacramento-San Joaquin Delta (Delta) watershed system by modifying the existing Shasta Dam and Reservoir to meet specified primary and secondary project objectives." (Draft EIS at 1-5.) That statement is accurate, but Reclamation should refine it to reflect the federal interest in and Congressional authorization for Shasta Dam and Reservoir, as a part of the CVP. The Water Authority recommends the following:

"The purpose of the proposed action is to improve operational flexibility of the Central Valley Project ~~Sacramento-San Joaquin Delta (Delta) watershed system~~ by modifying the existing Shasta Dam and Reservoir to meet specified primary and secondary project objectives."

2. Alternatives: The Draft EIS identifies a range of alternatives, which, when analyzed, presents information that was useful to the Water Authority and will undoubtedly be useful to Reclamation as it develops a Record of Decision. The Water Authority respectfully requests that Reclamation consider adopting an alternative that combines elements of the existing alternatives considered in the Draft EIS. Specifically, the Water Authority believes the purpose and need for the action, when considered with the federal interest in and Congressional authorization for the CVP, supports selecting an alternative that increases the height of Shasta Dam and Reservoir by 18.5 feet. The increased yield generated by the action should be dedicated, at the first and primary priority, to serve CVP purposes (i.e., all increased yield is considered part of the total annual CVP yield). Then, only if and for the period when the yield could not be beneficially used by CVP should Reclamation seek to sell that water to users outside of the CVP, including to the State Water Project.² The temporary sale of the water would help to repay the Federal investment in the CVP, until it can be dedicated to CVP purposes.

3. Sensitivity Analyses: The enlargement of Shasta Dam and Reservoir will increase the yield of the CVP. However, as history has shown, how Reclamation beneficially uses that yield will likely change over time. The Draft EIS considers the ability of Reclamation to use the yield based on operations under the existing operational criteria, infrastructure, and specific regulations. While the Water Authority appreciates the need to analyze the effects of the action

² The Water Authority supports including additional elements presented in the Draft EIS (e.g., Augment Spawning Gravel, Restore Riparian, Floodplain, & Side Channel Habitat, and/or Mitigation Measures) in the action.

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with those constraints, the Water Authority recommends that, in addition, Reclamation conduct "sensitivity analyses" that consider the benefits to the CVP increased yield from enlargement of Shasta Dam and Reservoir with new infrastructure, different operational criteria, and different regulations. Such sensitivity analyses are appropriate for an action, like enlargement of Shasta Dam and Reservoir, which has such long-term planning and operational horizons.

4. Ability To Use Information In The Draft EIS For CEQA Compliance: The Draft EIS indicates: (1) Reclamation prepared it in accordance with the California Environmental Quality Act (CEQA), and (2) the Draft EIS could be used by any State of California agencies involved in reviewing and issuing permits or other approvals for the project. (Draft EIS at 1-1.) The Water Authority agrees. The information developed in the Draft EIS will substantially assist with CEQA compliance. However, the Draft EIS should be revised in three respects. First, the Draft EIS should acknowledge that the CEQA lead agency has the vested responsibility to ensure CEQA is satisfied, and, as a result, for example, the CEQA lead agency: (a) may identify alternatives (including the environmentally preferred alternative) and render conclusions different from those presented in the Draft EIS, and (b) has discretion to determine the significance of environmental impacts and potentially feasible mitigation for any such impacts. Second, the Draft EIS should leave open the possibility that the Draft EIS would be used, not only by "State of California permitting agencies", but also local agencies within California. And, third, aspects of the Draft EIS could be supplemented to better provide the information required under CEQA.

The Water Authority attaches hereto more detailed comments. (See Attachment 2.) I, or a member of my staff, will contact you to schedule a meeting during which we can discuss the Water Authority's comments.

Sincerely,



Daniel Nelson
Executive Director

ATTACHMENT 1

San Luis & Delta-Mendota Water Authority Member Agencies

Banta-Carbona Irrigation District
Broadview Water District
Byron Bethany Irrigation District (CVPSA)
Central California Irrigation District
City of Tracy
Del Puerto Water District
Eagle Field Water District
Firebaugh Canal Water District
Fresno Slough Water District
Grassland Water District
Henry Miller Reclamation District #2131
James Irrigation District
Laguna Water District
Mercy Springs Water District
Oro Loma Water District
Pacheco Water District
Pajaro Valley Water Management Agency
Panoche Water District
Patterson Irrigation District
Pleasant Valley Water District
Reclamation District 1606
San Benito County Water District
San Luis Water District
Santa Clara Valley Water District
Tranquility Irrigation District
Turner Island Water District
West Side Irrigation District
West Stanislaus Irrigation District
Westlands Water District

ATTACHMENT 2

I. The Draft EIS Provides Substantial And Important Information That Will Assist Reclamation With Its Decision On The Proposed Action

The Draft EIS does not identify a preferred alternative. The Draft EIS explains this is because the Council on Environmental Quality's Proposed National Objectives, Principles, and Standards for Water and Related Resources Implementation Studies calls for allowing public input before a final action is recommended or selected. (Draft EIS at 1-35.) This is wise policy. The Draft EIS considers three different expansion heights for Shasta Dam – 6.5 feet, 12.5 feet, and 18.5 feet. The analysis in the Draft EIS concludes that an 18.5 foot raise will yield more water for the CVP and thus more benefits for CVP purposes, including environmental, agricultural, and municipal uses, than lesser elevations for only a relatively modest additional cost – making the 18.5 foot height the most efficient and economical of those considered in the Draft EIS. The Water Authority agrees with that conclusion, and supports the 18.5 foot raise. However, specific refinements and additional analyses are recommended. The Water Authority provides comments in the cover letter and sections below with the hope they will improve the Draft EIS before Reclamation finalizes it and to assist Reclamation in developing its Record of Decision.

II. The Draft EIS Would Benefit From Specific Refinements

A. The Draft EIS Should Be Revised To Reflect That Enlargement Of Shasta Dam And Reservoir Are Important Steps Toward Restoring Reclamation's Ability To Fulfill CVP Purposes Authorized by U.S. Congress

The enlargement action addresses a pressing need to improve Reclamation's ability to achieve the purposes for the CVP. Initially, in the Rivers and Harbors Act of 1937, Congress authorized the CVP for the purposes of "improving navigation, regulating the flow of the San Joaquin River and the Sacramento River, controlling floods, providing for storage and for the delivery of the stored waters thereof, for the reclamation of arid and semiarid lands and lands of Indian reservations, and other beneficial uses, and for the generation and sale of electric energy." (Act of August 26, 1937, Pub. L. No. 75 392, 50 Stat. 844, 850; see Rivers and Harbors Act of 1940, Pub. L. No. 76 868, 54 Stat. 1198, 1199-2000.) In 1992, these purposes were expanded to include the "mitigation, protection, and restoration of fish and wildlife." (Central Valley Project Improvement Act (CVPIA), Title 34 of Pub. L. No. 102-575, 106 Stat. 4706 (1992), § 3406(a)(1).) Today, Reclamation faces enormous challenges in fulfilling all of those CVP purposes, and, without such investments in the proposed action, doing so in the future is only going to become more difficult.

The Water Authority's member agencies have long relied on CVP water, and, for at least the last two decades, have faced increasing challenges to maintain the agricultural and urban economies they support. Since the early 1990s, the quantity and reliability of water Reclamation can deliver to the Water Authority's member agencies for irrigation, municipal and industrial purposes has significantly declined. In addition, Reclamation's ability to secure water for wildlife refuges, specifically Level 4 refuge supplies, has been challenging. During that same

time period, significant responsibilities have been imposed on Reclamation to dedicate CVP water for the protection of anadromous and pelagic fish; these responsibilities at times create conflicts (i.e., dedication of water for Delta outflow versus reservation of water in reservoirs to maintain cold water for salmon). During this time of increased CVP responsibilities, anadromous and pelagic fish populations have not improved and in many cases have degraded. The Draft EIS recognizes these facts. (See e.g., Draft EIS at 1-13.) The additional yield from enlargement of Shasta Dam and Reservoir will reduce the conflict and tension between the existing beneficial uses of CVP water and be an important step towards restoring Reclamation's ability to achieve the purposes of CVP.

B. Reclamation Should Refine The Purpose Statement To Reflect The Importance Of Improving Reclamation's Ability To Operate The CVP To Meet Its Authorized Purposes

The Draft EIS includes a broad purpose statement, which is to "improve operational flexibility of the Delta watershed system through modifying Shasta Dam and reservoir to meet specified primary and secondary project objectives." (Draft EIS at 5.) This statement should be refined to focus on the CVP. Such a refinement would comport with and recognize that the action proposes to augment an existing CVP facility, and it would also be consistent with Congressional intent, including that specified in the CVPIA. (CVPIA § 3402 (discussing a purpose of the CVP is to improve operational flexibility, CVPIA § 3408(j) (providing for the development of a plan to improve CVP yield).)

C. Reclamation Should Assess The Sensitivity Of The Impacts Of The Alternatives To Changes In Operational Criteria, Infrastructure, And Specific Regulations

Consistent with the need to improve Reclamation's ability to operate the CVP to meet CVP purposes, Reclamation should assess the sensitivity of the alternatives with changes in operational criteria, infrastructure, and specific regulations. The Water Authority recognizes that at this time changes in operational criteria, infrastructure, and specific regulations may still be years away. However, the suggested sensitivity analyses would complement the existing analyses of the different expansion heights for Shasta Dam and are reasonable and appropriate given the long-term 100-year operational and planning horizons to inform the public and decision makers of the actual long-term potential benefits to CVP yield of enlarging Shasta Dam. At a minimum, Reclamation should consider the sensitivity of its estimates of increased CVP yield to: (1) relaxation in the restrictions currently imposed on the CVP pursuant to the federal Endangered Species Act, (2) changes in the manner the Department of the Interior implements CVPIA actions and programs, (3) increases in the capacity of the CVP to re-divert water conveyed to or through the Delta, and (4) changes in CVP operations, including those related to the coordinated operations of the CVP and State Water Project.

D. Reclamation Should Consider An Alternative That Combines Several Existing Alternatives And Preserves Reclamation's Ability To Use All Yield From Shasta Enlargement To Meet CVP Purposes

The Draft EIS includes a range of alternatives, which, when analyzed, presents information that was useful to the Water Authority and will undoubtedly be useful to

Reclamation as it develops a Record of Decision. Each alternative, however, presents a somewhat fixed set of future CVP operations to meet the CVP purposes. The Water Authority respectfully requests that Reclamation consider adopting an alternative that retains maximum operational flexibility that would essentially combine the operational parameters of several of the alternatives considered in the Draft EIS into a new alternative that gives Reclamation maximum flexibility to operate to any of the various CVP purposes, identified in the existing alternatives.

This is a reasonable alternative to include in the Draft EIS because of the 100-year planning period and operational life assumed for any alternative for Shasta Dam and Reservoir enlargement. For example, regulation of the CVP has and will likely continue to change over time. The burdens imposed on the CVP through biological opinions have evolved over time, and likely will continue to evolve. The State Water Resources Control Board's Bay-Delta Water Quality Control Plan is subject to regular review and update. New science and the benefits of restoration efforts may also cause changes in the current approaches to regulating CVP operations. These areas of regulation are further subject to change as new facilities or methods of CVP operation occur.

For these reasons, Reclamation should plan accordingly, and address the potential for changed circumstances in its NEPA analysis. That analysis and whatever alternative is selected should allow Reclamation the flexibility to dedicate the additional yield generated by the action to achieve CVP purposes, even if current constraints would prevent such uses.

E. Reclamation Should Conduct An Assessment Of Existing Water Rights It Holds For The CVP Before Assuming New Water Rights Are Needed

The Draft EIS assumes Reclamation will need to apply for and obtain new water rights from the State Water Resources Control Board to develop additional yield with the enlarged Shasta Dam and Reservoir. (Draft EIS at 1-35.) That assumption may not be correct, and the administrative actions Reclamation may need to take before the State Water Resources Control Board, if any, will likely differ depending upon the action Reclamation adopts. The Water Authority requests that Reclamation provide an assessment of the existing water rights Reclamation holds for the CVP and their consistency with the alternatives before finalizing the Draft EIS.

F. Reclamation Should Refine The Draft EIS To Acknowledge That The California Environmental Quality Act Lead Agency Will Make Independent Determinations

The Water Authority commends Reclamation for producing an environmental impact statement that substantially complies with the requirements of CEQA. The document will assist State and local agencies in complying with the California Environmental Quality Act (CEQA). In fact, CEQA authorizes and encourages use of an EIS in place of a separate EIR. (Public Resources Code §§ 21083.5, 21083.7.) However, there are several refinements that could be made to the Draft EIS, to better reflect CEQA mandates.

The Draft EIS should recognize that the CEQA lead agency has the ultimate responsibility to prepare and certify the environmental impact report. With lead agency designation comes the responsibility and the discretion to determine the significance of

environmental impacts and potentially feasible mitigation for any such impacts. The Draft EIS should state explicitly that Reclamation cannot make the CEQA determination vested with the CEQA lead agency (e.g., feasible alternatives, thresholds of significance, findings, conclusions). The lead agency must also make other determinations required by CEQA, such as identifying the environmentally preferred alternative, among others. In addition to reserving these determinations for the CEQA lead agency, Reclamation should include text in the FEIS that expressly acknowledges that the requirements of NEPA and CEQA differ, and that certain conclusions made by Reclamation under NEPA need not and may not be the same conclusions that the lead agency under CEQA will make when it exercises its independent discretion under CEQA. Finally, there are areas where augmentation would help improve the information needed to satisfy CEQA. The Water Authority welcomes the opportunity to discuss those areas with Reclamation.

III. To Ensure Proper Consideration Of Alternatives, The Analysis In The Draft EIS Should Be Augmented

A. The Draft EIS Should Expand Its Discussion Of The Impacts Of Water Shortages To The Human Environment

The no-action alternative could be supplemented to better present the ongoing negative effects caused by the existing inability of Reclamation to adequately and reliably serve agricultural, municipal and industrial water users. When the CVP was able to provide a reliable water supply, communities and viable local economies developed. But, reduced CVP water supplies have and continue to cause physical impacts related to the reliance on groundwater to substitute for lost CVP supplies. These include reduced groundwater levels from overdraft, surface subsidence, adverse impacts to crops and soil from reliance on poor quality groundwater, increased energy use, and impacts to air quality.

Shortages of CVP supplies have also caused changes in land use patterns, loss and destruction of permanent crops, and/or decreased production of existing crops. In response to reduced water supplies, farmers will fallow fields, reducing agricultural productivity directly results in layoffs, reduced hours for agricultural employees, and increased unemployment in agricultural communities. Reduced agricultural productivity also has indirect socioeconomic impacts for agriculture-dependent businesses and industries. In addition, unavailability of stable and sufficient water supplies reduces farmers' ability to obtain financing, which results in employment losses, due to the reduced acreage of crops that can be planted and the corresponding reduction in the amount of farm labor needed for that reduced acreage.

Reduced water supplies and the resulting employment losses also cause cascading socioeconomic impacts in affected communities, including increased poverty, hunger, and crime, along with dislocation of families and reduced tax-based revenues for local government services and schools. In the urban sector, reduced supplies or increased supply uncertainty can cause water rates to increase as agencies seek to remedy supply shortfalls by implementing measures to reduce demand and/or augment supplies. Connection fees and other one-time costs for new developments may also increase and further retard economic development. All these impacts were explained and found in recent federal court cases regarding NEPA impacts from reduced

CVP deliveries. (See e.g., *The Consolidated Delta Smelt Cases*, 717 F.Supp.2d 1021 (E.D. Cal. 2010), *The Consolidated Salmonid Cases*, 713 F.Supp.2d 1116 (E.D. Cal. 2010).)

Conversely, the impact analysis may not adequately capture the positive effects of improving the quantity or reliability of water to agricultural, municipal and industrial water users. In particular, the agricultural impact analysis provided in Chapter 10 of the Draft EIS does not adequately identify and explain the beneficial impacts on agriculture of delivering increased and more reliable CVP supplies that would result from Shasta Dam enlargement.

The description of the impacts to the human environment from the no action alternative and each action alternative should reflect the consequences for the human environment from shortages of CVP water. Failing to raise Shasta Dam and using additional yield to address those shortages will allow the significant adverse impacts to the human environment in the CVP service area, particularly on the west side of the San Joaquin Valley, to persist unabated. Conversely, the more an alternative will lessen CVP water supply shortages, the greater the potential benefit for the human environment in the CVP service area. Those relative consequences among alternatives should be described.

B. Reclamation Should Provide More Details About The Proposed Water Conservation Program

The Water Authority generally agrees with Reclamation's decision to include agricultural and urban water conservation in the action alternatives as a common management measure. (Draft EIS at 2-24.) However, Reclamation should clarify whether the analysis in the Draft EIS includes water conserved from this program in its estimates of the water supply increases from the action alternatives. If so, the conserved water should not be included in the cost allocation process, since those water supplies could be achieved without raising Shasta Dam. If not, the Draft EIS does not appear to provide an estimate of the water supplies generated solely by implementation of the water conservation program.

Further, the Draft EIS should describe the proposed water conservation program in more detail. What management practices or physical improvements will the program seek to implement? Would Reclamation implement these measures through existing contracts, new contracts, or some other mechanism? Also, will all CVP contractors be part of the program or only some subset? If these and other aspects of the program still need to be developed, the Water Authority would like to collaborate with Reclamation when it does so.

C. Climate Change Modeling Should Be Expanded To Each Of The Alternatives

The Draft EIS Climate Change Modeling Appendix indicates that the effects of climate change were modeled on both CP4 and CP5, but not CP3. NEPA requires an equal level of analysis for alternatives, and therefore the Draft EIS should provide a similar analysis of the effects of climate change on CP3 that allows decision makers and the public to understand the likely environmental and socioeconomic effects of CP3 given reasonable estimates of future climate change. In addition, the Water Authority's recommended new alternative (see comment II-D above), once developed, would require a similar level of analysis.

D. Additional Information On Costs And Benefits Would Improve The Economic Analyses

Information on economic costs and benefits, particularly the Draft Economic Valuation Appendix, would benefit from a more expansive discussion of the costs and benefits associated with improving the ability of Reclamation to operate the CVP to meet CVP purposes, in particular Reclamation's ability to improve water supply and reliability for municipal and industrial users of CVP water. The costs and benefits should not be limited to direct impacts, but should also consider the indirect and cumulative impacts within the communities dependent upon the CVP water.

E. The Draft EIS Should Discuss Environmental Justice Issues Within Specific Communities

Chapter 24 of the Draft EIS discusses the environmental justice aspects of the various action alternatives. Its discussion is very general and may miss important impacts that occur within specific communities – both north and south of the Delta. For example, improved CVP water supplies and reliability will likely have important environmental justice implications for communities within the San Joaquin Valley, which have been particularly hard hit with economic distress caused by the reduction of CVP water supplies and reliability. Reclamation should consider revising the environmental justice discussion to disclose the implications of changes in water supply and reliability to specific communities, including the communities of Firebaugh, Mendota, Huron and Avenal.

IV. Specific Suggested Edits

Draft EIS Page	Suggested Change / Comment
1-24	Add the following (emphasis added): "... Clifton Court Forebay into Bethany Reservoir. <u>Some of the water delivered to Bethany Reservoir is pumped at South Bay Pumping Plant for delivery through the South Bay Aqueduct to SWP contracting agencies in the San Francisco Bay Area. Most of the water</u> delivered to Bethany Reservoir flows into the California Aqueduct, the main conveyance facility of the SWP. ..."
3-17	Add the following (emphasis added): "Those three water districts ... Milpitas, Santa Clara, and San Jose, <u>among others.</u> "
3-27	Correct the release of the BDCP EIR/EIS from "spring 2013" to "fall 2013".
6-4	To be more complete, it is recommended that the Delta-Mendota Canal-California Aqueduct Intertie be included in the description of CVP/SWP service areas.
2-45 and 2-46	CP3 is described as providing agricultural water supply reliability but no improvement in increasing M&I deliveries. This conflicts with the planning consideration on page 2-7: "Alternatives should strive to balance increased water supply reliability between agricultural and M&I uses."

D-CCWD2 Duplicate of L-CCWD2



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OCT 25 2013

700 ✓ KDuncan

25 Oct 13

D: K Chow

September 30, 2013

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Katrina Chow, Project Manager
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Sacramento, CA 95825

**Subject: Comments on Draft Environmental Impact Statement for Shasta Lake
Water Resources Investigation**

Dear Ms. Chow:

Contra Costa Water District (CCWD) appreciates this opportunity to provide input on the draft Environmental Impact Statement (EIS) for the Shasta Lake Water Resources Investigation (SLWRI). As a Central Valley Project (CVP) contractor and a stakeholder in the Sacramento-San Joaquin Delta (Delta), CCWD supports developing more water storage in California and is committed to careful planning of these projects. CCWD applauds the efforts of the Reclamation team in producing the SLWRI Draft EIS. Our comments on the draft are below.

Project Benefits and Cost Allocation

As a CVP customer, CCWD supports development and adoption of a cost allocation for water storage projects that is consistent with the distribution of project benefits. If benefits of the project are extended to water users beyond the CVP, those water users should be incorporated into the funding structure for the project. If municipal and industrial (M&I) water supply benefits are not a focus of the selected project alternative, that emphasis should be reflected in the reduced cost allocation to M&I contractors.

CCWD diverts Delta water for delivery to municipal, industrial and agricultural customers. Because of these uses, maintaining good water quality in the Delta is important to CCWD. CCWD staff have reviewed the updated model simulations of the operations and effects of the SLWRI project alternatives provided with the draft EIS. The results specific to CCWD indicate that little or no change to CCWD water supply is anticipated by Reclamation as a result of developing the SLWRI project. Similarly, the Delta water quality estimated in the modeling results provided by Reclamation does not vary substantially at CCWD intake locations among the project alternatives. CCWD notes the minimal estimates of water supply or water quality benefits provided directly to CCWD in the project modeling. It would be useful to have the water supply reliability benefits quantified for the proposed action, when selected.

SCANNED

Classification	ENV-6.00
Project	214
Control No.	13043410
Folder ID	1230127
Date Input & Initials	10-25-13 RM

Ms. Katrina Chow, Bureau of Reclamation

Comments on Draft Feasibility Report for Shasta Lake Water Resources

Investigation

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More discussion should be presented of the potential for reduced deliveries to M&I contractors in the expanded reservoir scenarios. If those effects are artifacts of the model analysis, rather than intended effects of the project, then that should be clearly stated. If those effects are intended, then appropriate mitigation for the impacts to water supply should be developed.

Rock Slough Water Quality Objective

The discussion of the State Water Resources Control Board Decision 1641 water quality objectives at Rock Slough should be clarified. There are two water quality objectives at Rock Slough; one is for a water quality threshold of 150 milligrams per liter chloride (mg/L Cl), and one is for a threshold of 250 mg/L Cl. Compliance for the 150 mg/L Cl objective is measured either at CCWD's Pumping Plant 1 on the Contra Costa Canal, which diverts water from Rock Slough, or at the City of Antioch Water Works on the lower San Joaquin River. Compliance for the 250 mg/L Cl objective is measured at CCWD's Pumping Plant 1, West Canal at Clifton Court Forebay, Delta-Mendota Canal at the CVP Jones Pumping Plant, Barker Slough at North Bay Aqueduct Intake, and Cache Slough at the City of Vallejo Intake. While Table 7-13 of the draft EIS presents these details correctly, the discussion of the analysis and the presentation of water quality effects of the project alternatives in the draft EIS (in Tables 7-14, 7-15, 7-45, 7-46, 7-72, 7-73, 7-99, 7-100, 7-128, and 7-129) indicate that water quality at Old River at Rock Slough was evaluated to determine effects of the project alternatives. As a modeling solution to the difficult problem of estimating water quality at Pumping Plant 1, water quality at Old River at Rock Slough is often used, with an appropriate transfer function, to estimate Pumping Plant 1 water quality. This is necessary because water quality is often different at Pumping Plant 1 than measured in Old River, due in part to local effects. We suggest that these details be clarified in the presentation of results, and that the relationship of the water quality analysis presented to the correct compliance location be carefully described.

Furthermore, compliance with the water quality objectives does not appear to be correctly evaluated in the Draft EIS. Compliance with the Rock Slough objectives is not measured by long-term averages of monthly values; it is measured by comparing the total number of days in excess of the given objective. The allowable number days water quality is allowed to exceed 150 mg/L chloride varies with water year type. Water quality in excess of 250 mg/L chloride is never allowable. Evaluation of both components of the objective requires evaluation of the annual total number of days in excess of each threshold value; evaluation of long-term average by month does not suffice for either. We are confident that the expanded reservoir could and would be operated to meet the D-1641 water quality objectives, just as the current Shasta Reservoir is operated to do so. However, the discussion of the objective should be clarified to ensure that the analysis has been done carefully. The suggested analysis is likely possible with the DSM2 runs already performed for the project alternatives.

Ms. Katrina Chow, Bureau of Reclamation
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Also, the values presented in Table 7-14 should be verified as values of less than 1 milligram per liter chloride rarely occur in Old River.

Description of CCWD Facilities and Operations

The table of CalSim II modeling assumptions (Modeling Appendix, Table 2-1) categorizes CCWD demand as "south of the Delta", however, CCWD demands should be categorized as "in-Delta". CCWD operates four intakes located in the Delta independently of the Jones Pumping Plant. CCWD is an in-Delta user of CVP water, and also diverts water under other water rights held by CCWD. Similarly Los Vaqueros Reservoir should not be included as a Delta export. Water diverted into Los Vaqueros Reservoir is later released to offset CCWD's in-Delta diversion of CVP water supply. We recognize that these may seem to be minor semantic points of difference, but we encourage the Reclamation team to help clarify the complicated plumbing in the California Delta through careful presentation of information in the final EIS document. Again, please feel free to call CCWD for more input on this subject.

Thank you for this opportunity to provide input to the scoping process. If you have any questions, please call me at (925) 688-8083, or call Matt Moses at (925) 688-8106.

Sincerely,



Leah Orloff
Water Resources Manager

LO/MM:wec

Organization/Special Interest Group

D-FOTR1 Duplicate of O-FOTR1

-----Forwarded message-----

From: Bob Center <bcenter7210@att.net>

Date: Fri, Jul 19, 2013 at 4:11 PM

Subject: RE: Sources of Graphs Shown at Sacramento Public Workshop, July 16

To: Bob Center <bcenter7210@att.net>, kchow@usbr.gov

With attachment:

"

From: Bob Center [mailto:bcenter7210@att.net]

Sent: Friday, July 19, 2013 3:55 PM

To: kchow@usbr.gov

Subject: Sources of Graphs Shown at Sacramento Public Workshop, July 16

"

Katrina,

"

I attended your workshop in Sacramento last Wednesday. Could you tell me where I could find the Power Point presentation, and also the graphics that were displayed on easels in the room? In particular, could you tell me where I can find the two attached graphics, and the underlying data and calculations that produced the graphics?

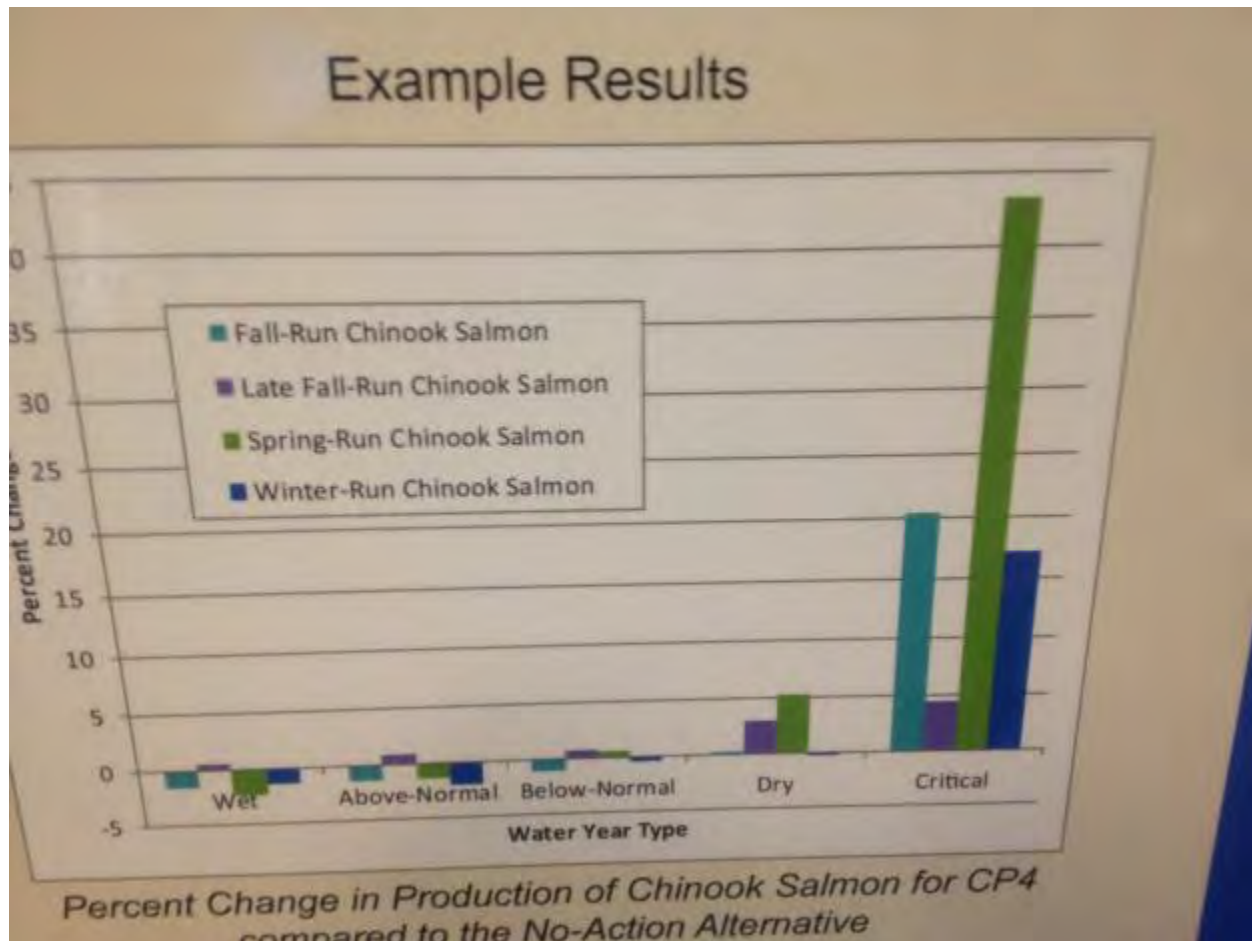
"

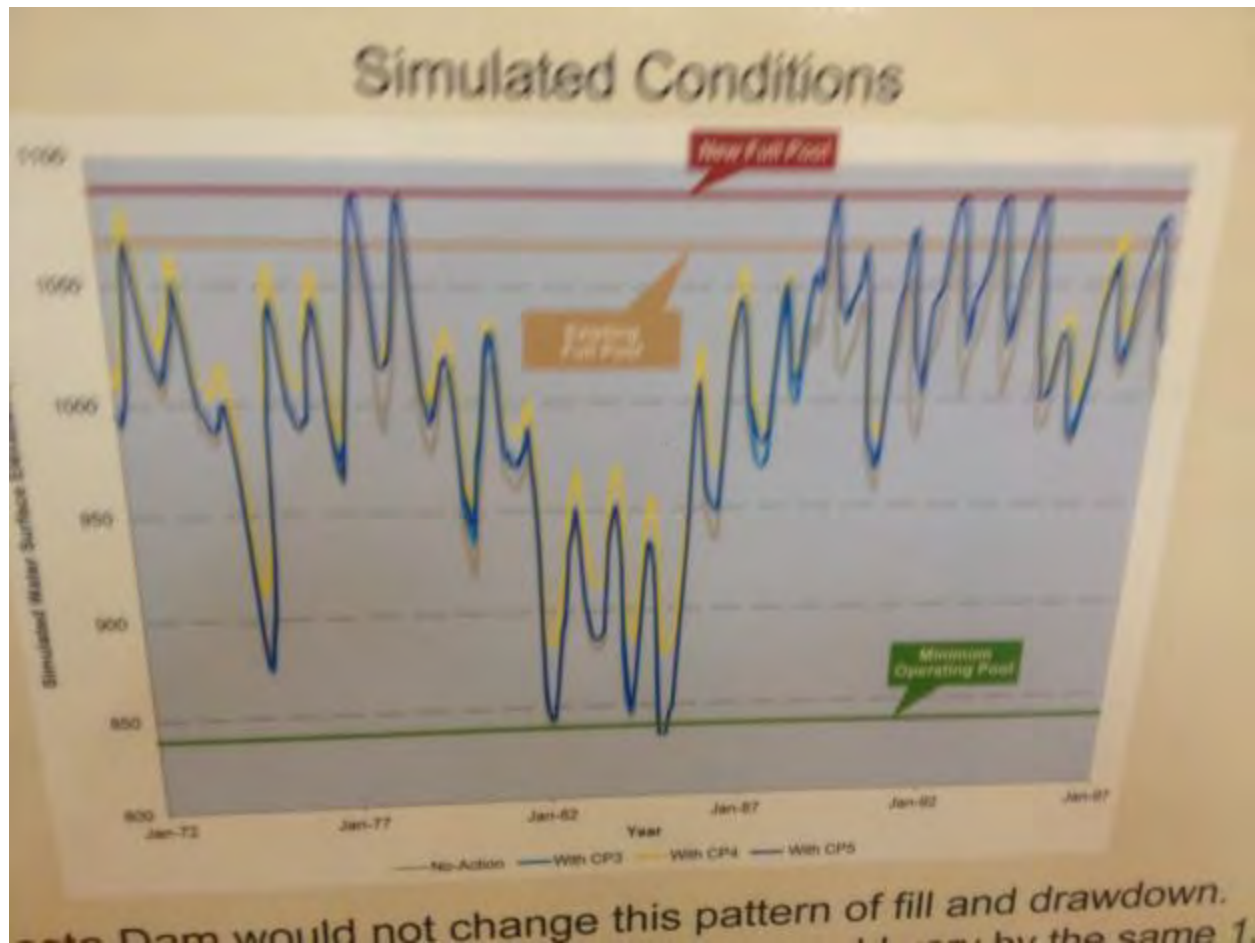
There is a great deal of information on your website, but finding these specific graphs is akin to finding a needle in a haystack.

"

Thanks,

Bob Center





D-PGE4 Duplicate of O-PGE4



Law Department

77 Beale Street, 830A
San Francisco, CA 94105

Mailing Address
P.O. Box 7442
San Francisco, CA 94120

Fax: 415.973.5520

July 8, 2013

Ms. Katrina Chow, Project Manager
Bureau of Reclamation, Planning Division
2800 Cottage Way, MP-700
Sacramento, CA 95825-1893

Re: Draft Environmental Impact Statement for Shasta Lake Water Resources
Investigation

Dear Ms. Chow:

We are in receipt of the June 25, 2013 letter to Interested Parties for the Public Review and Comment on the Draft Environmental Impact Statement for Shasta Lake Water Resources Investigation, along with a copy of the DVD. The envelope was addressed to Ms. Madelin Mailander, Senior Legal Assistant and Case Manager at P. O. Box 7442, San Francisco, CA 94120 (copy enclosed).

Would you be so kind and delete Ms. Mailander's name from the list of "Interested Parties" and instead add the following name in place of hers:

Annette Faraglia, Esq.
Law Department
PACIFIC GAS AND ELECTRIC COMPANY
P. O. Box 7442
San Francisco, CA 94120-7442

Thank you.

Very truly yours,

Betsie Diamond, Secretary to
ANNETTE FARAGLIA

BD
Enclosures

cc: Ms. Madelin Mailander, Legal Assistant
Annette Faraglia, Esq.

SCANNED

Classification	ENV-600
Project	214
Control No.	13032229
Folder I.D.	1230427
Date Input & Initials	7-11-13 RM



United States Department of the Interior

COPY

BUREAU OF RECLAMATION
Mid-Pacific Regional Office
2800 Cottage Way
Sacramento, CA 95825-1898

IN REPLY REFER TO:

MP-720
ENV-6.00

JUN 25 2013

Interested Parties

Subject: Public Review and Comment on the Draft Environmental Impact Statement for Shasta Lake Water Resources Investigation

Dear Ladies and Gentlemen:

The Bureau of Reclamation is pleased to provide the Draft Environmental Impact Statement (EIS) for the Shasta Lake Water Resources Investigation (SLWRI) for a 90-day public review and comment period. The Draft EIS documents an evaluation of the potential effects of six alternative plans for raising the existing Shasta Dam and Shasta Reservoir located approximately 10 miles northwest of Redding, CA.

The primary objectives of the proposed action are to increase the survival of anadromous fish populations in the upper Sacramento River, and increase water supply and water supply reliability for agricultural, municipal and industrial, and environmental purposes. The Draft EIS documents the potential direct, indirect, and cumulative environmental effects of the alternatives, including a no-action alternative.

The SLWRI is one of four on-going storage investigations included in the CALFED Bay-Delta Program Programmatic Record of Decision, which identified program goals, objectives, and projects primarily to improve California's water supply and the ecological health of the San Francisco Bay/Sacramento-San Joaquin Delta system. It is being conducted under the authority of Public Law (P.L.) 96-375 and reaffirmed in P.L. 108-361, the CALFED Bay-Delta Authorization Act.

In February 2012, Reclamation released a Draft Feasibility Report and Preliminary Draft EIS for the SLWRI to inform the public, stakeholders, and decision makers about the results of the investigation at that time. The Draft Feasibility Report describes the potential technical, environmental, economic, and financial feasibility of alternatives to raise Shasta Dam. The Draft Feasibility Report, Draft EIS, and public comments on the two documents will be used to determine the next steps for the investigation.

Cooperating agencies include the Forest Service, Bureau of Indian Affairs, Colusa Indian Community Council of the Cachil Dehe Band of Wintu Indians, and U.S. Army Corps of Engineers, pursuant to the National Environmental Policy Act. These agencies will likely use

D-PGE6 Duplicate of O-PGE6



SLWRI, BOR MPR <slwri-mpr@usbr.gov>

PG&E's Comments on BOR's DEIS on the SLWRI . . .

10/26/2013

Diamond, Elizabeth <EJDd@pge.com> Thu, Sep 26, 2013 at 7:14 PM
To: "bor-mpr-slwri@usbr.gov" <bor-mpr-slwri@usbr.gov>
Cc: "kchow@usbr.gov" <kchow@usbr.gov>, "Faraglia, Annette (Law)" <ARF3@pge.com>

September 26, 2013

TO WHOM IT MAY CONCERN:

Today PG&E submitted an original and two hard copies of its *Comments on the Bureau of Reclamation's DEIS on the Shasta Lake Water Resources Investigation* to Ms. Katrina Chow, Project Manager. Late this afternoon, we learned that I had made a typographical error on said Comments. On **page 3**, in the **third paragraph**, the **3 & 4th lines down**, "fifty-nine distribution transformers" should read "**fifty-nine distribution poles**". The paragraph should read as follows:

As noted above, PG&E has electric distribution facilities located within the BOR SLWRI study area. Preliminary review of the new water mark based on the model produced by PG&E's Geographic Information Systems Group indicates that PG&E will need to relocate fifty-nine distribution poles ~~transformers~~ and upgrade twenty-nine distribution transformers at an estimated cost of \$914,000. These poles are part of the Antler 1101, Stillwater 1101, and Stillwater 1102 12 kV circuits serving small communities such as parts of Lakehead and Mountain Gate. (See Attachment 4 for more detail.)

I have attached a corrected page 3 to PG&E's Comments.

Would BOR like an electronic copy of the complete copy of the Comments with the corrected page, along with attachments, or would BOR prefer to insert the attached corrected page 3?

I apologize for my inadvertent error.

Thank you!
Betsie Diamond
PG&E Law Dept.
77 Beale St., B30A-2482
San Francisco, CA 94105-1814
Telephone: (415) 973-6644
Facsimile: (415) 972-5952
E-Mail: ejdd@pge.com

PG&E is committed to protecting our customers' privacy.
To learn more, please visit <http://www.pge.com/about/company/privacy/customer/>

09-26-13 CORRECTED P. 3 to PG&E's Comments on BOR's DEIS.pdf
358K

Ms. Katrina Chow, Project Manager
Bureau of Reclamation – Planning Division
Re: PG&E's Comments on DEIS for the
Shasta Lake Water Resources Investigation
September 25, 2013
Page 3

The overall DEIS analysis of potential impacts at the Pit 7 Development is woefully insufficient. BOR did not address the majority of concerns PG&E raised in its November 30, 2005 and January 28, 2013 letters. Accordingly, a more comprehensive assessment of all potential impacts is still required.

In an effort to help the BOR, PG&E contracted with Black & Veatch to prepare a Technical Memorandum entitled *Shasta Dam Raise Impacts on PG&E's Pit 7 Development*. A copy of this Technical Memorandum is attached as Attachment 3. It is PG&E's intention that this document will form the foundation for future dialog between BOR and PG&E seeking resolution to the impacts at the Pit 7 Development.

As noted above, PG&E has electric distribution facilities located within the BOR SLWRI study area. Preliminary review of the new water mark based on the model produced by PG&E's Geographic Information Systems Group indicates that PG&E will need to relocate fifty-nine distribution poles and upgrade twenty-nine distribution transformers at an estimated cost of \$914,000. These poles are part of the Antler 1101, Stillwater 1101, and Stillwater 1102 12 kV circuits serving small communities such as parts of Lakehead and Mountain Gate. (See Attachment 4 for more detail.)

PG&E also has two high voltage power line facilities located within the SLWRI study area, the Crag View-Cascade 115 kV line, and the Delta-Mountain Gate Junction 60kV line. The two lines roughly parallel each other within the study area with the 115 kV line the more westerly of the two circuits. In addition, the 115 kV line supports a fiber optic communication cable.

Approximately twenty-four PG&E structures will be affected by BOR's proposed project and may require replacement. The replacement of the structures that support electrical conductors that span large bodies of water will require significantly taller structures (approximately 40 to 50 feet taller). The taller structures are needed for the following reasons:

1. The increase in span lengths between structures;
2. The raise in the water level; and
3. Since the original construction of the power lines, the State of California clearance requirements over water has increased by an additional 20 feet.

The projected cost to modify the high voltage power lines, due to BOR's proposed project, is approximately \$15 million but costs could be significantly higher. PG&E would

D-PFT1 Duplicate of O-PFT1



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Comment on SLWRI draft EIS

Patrick Doherty <pdoherty@pacificforest.org> Mon, Sep 30, 2013 at 4:30 PM
To: "BOR-MPR-SLWRI@usbr.gov" <BOR-MPR-SLWRI@usbr.gov>

Dear Ms. Chow,

Please find attached a signed copy of a letter sent to you today on the draft EIS for the SLWRI. The content of the letter appears below.

Cheers

--

Patrick Doherty
Policy Associate, Pacific Forest Trust
1001A O'Reilly Avenue, San Francisco, CA 94129
(415) 561-0700 Ext. 39
pdoherty@pacificforest.org

Dear Ms. Chow,

The undersigned organizations thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) recently published as part of the Shasta Lake Water Resources Investigation (SLWRI). We are active members of the Shasta Lake watershed community and have a significant interest in the outcomes of the SLWRI.

We are opposed to the proposals outlined in the DEIS to raise the Shasta Dam. Our opposition is centered on the Bureau of Reclamation's failure to address broader watershed conservation in the DEIS. A single-minded focus on raising the height of Shasta Dam without working to conserve and protect the landscape that supplies water to Shasta Lake is short-sighted. The watershed as a whole is the true reservoir – Shasta Lake is only its most visible manifestation. By failing to conserve the broader watershed in any way, the Bureau is endangering the source of the water that it covets.

Thank you again for the opportunity to comment on the DEIS.

Sincerely,

Patrick Doherty
Policy Associate
Pacific Forest Trust
1001-A O'Reilly Ave.
San Francisco, CA 94129
e-mail: pdoherty@pacificforest.org

Carolee Krieger
President and Executive Director
California Water Impact Network
808 Romero Canyon Road
Santa Barbara, CA 93108
e-mail: caroleekrieger7@gmail.com



FINAL multi scanned version.pdf
368K



Katrina Chow, Project Manager
United States Department of the Interior
Bureau of Reclamation, Mid-Pacific Region
2800 Cottage Way, MP-700
Sacramento, CA 95825-1893

Copy sent via email to: BOR-MPR-SLWRI@usbr.gov

September 30th 2013

Dear Ms. Chow,

The undersigned organizations thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) recently published as part of the Shasta Lake Water Resources Investigation (SLWRI). We are active members of the Shasta Lake watershed community and have a significant interest in the outcomes of the SLWRI.

We are opposed to the proposals outlined in the DEIS to raise the Shasta Dam. Our opposition is centered on the Bureau of Reclamation's failure to address broader watershed conservation in the DEIS. A single-minded focus on raising the height of Shasta Dam without working to conserve and protect the landscape that supplies water to Shasta Lake is short-sighted. The watershed as a whole is the true reservoir – Shasta Lake is only its most visible manifestation. By failing to conserve the broader watershed in any way, the Bureau is endangering the source of the water that it covets.

Thank you again for the opportunity to comment on the DEIS.

Sincerely,

A handwritten signature in black ink, appearing to read "PDoherty", with a stylized flourish at the end.

Patrick Doherty
Policy Associate
Pacific Forest Trust
1001-A O'Reilly Ave.
San Francisco, CA 94129
e-mail: pdoherty@pacificforest.org

A handwritten signature in black ink, appearing to read "Carolee Krieger", with a stylized flourish at the end.

Carolee Krieger
President and Executive Director
California Water Impact Network
808 Romero Canyon Road
Santa Barbara, CA 93108
e-mail: caroleekrieger7@gmail.com

D-PFT2 Duplicate of O-PFT2



SLWRI BOR MPR <sha-mpr-slwri@usbr.gov>

SLWRI Draft EIS

1 message

Patrick Doherty <pdoherty@pacificforest.org> Mon, Sep 30, 2013 at 12:29 PM
To: "BOR-MPR-SLWRI@usbr.gov" <BOR-MPR-SLWRI@usbr.gov>

Katrina Chow, Project Manager

United States Department of the Interior

Bureau of Reclamation, Mid-Pacific Region

2800 Cottage Way, MP-700

Sacramento, CA 95825-1893

Copy sent via email to: BOR-MPR-SLWRI@usbr.gov

September 30th 2013

Dear Ms. Chow,

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) recently published as part of the Shasta Lake Water Resources Investigation (SLWRI). The Pacific Forest Trust (PFT) holds several large conservation easements in the Shasta region, and is the convener of the Klamath-Cascade Advisory Council – a local group of stakeholders interested in economic development and forest health in the Shasta region. As a result, PFT has interests in the region that are directly affected by the SLWRI and the proposal to raise the Shasta Dam (the proposal).

Overall, PFT believes that all five of the proposal's action options are anachronistic and their analysis wholly inadequate. While the original Shasta Dam may have been an appropriate way to address flood control, water storage and electricity generation, the 21st century introduces new challenges with respect to climate change and water security, and consequently new solutions are required.

The Bureau of Reclamation (the Bureau) should not spend billions of dollars to raise the Shasta Dam, while simultaneously ignoring more cost-effective means of increasing water security and regulating water supply. Modest investments in forest conservation and wet meadow restoration in the upper watersheds of Shasta Lake

would be a more efficient and more flexible investment, especially in the face of uncertain changes to our environment.

PFT opposes the proposal and the five action options considered by the DEIS for implementing it. The reasons for our opposition are:

- The proposal is illegal in its effects by interfering with the free-flowing conditions of the McCloud River.
- The proposal's process is illegal, as it requires collaboration with state agencies that is prohibited by law.
- The rationale for the proposal is hollow as the action options will not reduce expected unfulfilled CVP contractual obligations, making the high cost of the proposal unjustifiable.
- The current full pool of Shasta Lake is rarely reached, which suggests that projections of future full pool levels will be rarely reached as well.
- The DEIS does not consider a preferred alternative encompassing forest conservation and restoration activities.

Further, PFT finds that the DEIS fails to analyze the range of alternatives fully as the DEIS:

- Fails to consider in any form the value of forest conservation and wet meadow restoration projects and their ability to increase water security and supply for Shasta Lake.
- Fails to account for greenhouse gas (GHG) emissions from flooded vegetation, cement manufacture and decay, and foregone sequestration.
- Fails to consider the overall policy landscape for renewable energy in California, and therefore significantly overestimates the GHG emission mitigations that will result from increased hydroelectric power generation.

General Comments

As noted by the SLWRI's Draft Feasibility Report (DFR), the total increase in demand for water in California by 2050 is expected to range between -1.5 to 8 million acre-feet (MAF), depending on the model of population growth used. However, when one looks at those numbers broken down by sector it becomes apparent that none of the increase in

demand by 2050 is expected to come from the agricultural sector. Under all of the growth scenarios cited by the DFR, the agricultural sector is expected to consume less water in 2050 compared to the present day.

The Shasta Dam, as the largest reservoir serving the Central Valley Project (CVP), supplies water mainly to the CVP and its contractors. As you are well aware, the vast majority of CVP water is used by the agricultural sector. According to the Bureau's own record of CVP contractors as at February 22nd 2012, the agricultural sector is allocated 87% of the CVP's water service supplies.

While it may be that current CVP contractual obligations go unfulfilled, it does not follow that raising the Shasta Dam will satisfy those unmet obligations. The DEIS notes that under various projections of the impacts of climate change, the reduction in unmet demand to CVP contractors will be small (DEIS Climate Change Modeling Appendix (CCMA), page 3-114). Given that the annual unmet CVP obligations under various climate models are expected to range from 2.7 to 8.2 MAF per year (CCMA, p. 3-73), the expected reduction in unmet demand for CVP contractors is, literally, a drop in the bucket.

Therefore, an argument to raise the Shasta Dam premised on the need to secure a greater supply of water for CVP contractors is fundamentally flawed. The vast majority of water that the CVP is contracted to supply is owed to a sector that is not projected to require more water in the future than it does today, and the DEIS CCMA makes clear that whatever new storage is created will likely be inconsequential to expected unmet contractual obligations.

Given that the underlying rationale for the project is hollow, any significant cost for the project would be a waste of financing. The DEIS's estimated costs for the proposal to raise the dam are enormous. Each of the five different action options for raising Shasta Dam is expected to cost approximately \$1 billion merely for construction. Once ongoing costs are added, the total cost for the action options range from \$4.2 billion to \$5.4 billion.

It truly stretches credibility to argue that federal taxpayers, state taxpayers, and CVP contractors should be expected to pay these gigantic sums for CVP water storage where there is no projected increase in demand for the agricultural sector, and where any new storage created will likely not affect expected unmet obligations. While there may be some agricultural CVP contractors "at the back of the line" for water distributions that desire to see the dam raised, their particular interests should not be used to justify such enormous expenditures and unavoidable environmental degradation.

Significant and Unavoidable Impacts on the Free-Flowing Conditions of the McCloud River

In general, PFT opposes the proposal to raise the Shasta Dam on the grounds that it will negatively affect the free-flowing conditions of the McCloud River. As noted by the DEIS, the free-flowing conditions of the McCloud River are protected by state law, and these conditions would be negatively impacted by all five of the proposal's action options.

While PFT appreciates that the DEIS is forthright enough to admit to the proposal would violate state law protecting

the free-flowing conditions of the McCloud River. PFT is deeply concerned that despite this acknowledgement, there appears to be no mitigation proposed for these effects on the McCloud River. Rather, they are identified as “significant and unavoidable” impacts on page ES-123 of the DEIS.

It may be stating the obvious, but if the Bureau cannot mitigate or otherwise resolve impacts that make the proposal illegal, then the Bureau should not pursue the proposal. This is because executive agencies are entrusted with enforcing the law of the land. It is a fundamental premise of our system of government that the executive is not allowed to break the law. Therefore, PFT urges the Bureau to cease work on a proposal that it has identified as being plainly illegal in its effects.

Illegality of the Process as it Relates to State Agencies

Of the several unresolved issues noted on pages ES-29 to ES-32 of the DEIS, one of the most striking is the fact that cooperation on the Shasta Dam proposal between state agencies and the Bureau is likely illegal. This is because state law generally prohibits California state agencies from working with federal agencies on proposals that would have an adverse effect on the free-flowing conditions of the McCloud River – which is exactly what the proposal would do.^[1]

PFT urges the Bureau to discontinue its efforts to coordinate with state agencies on this proposal. This includes efforts that seek or otherwise result in permits or approvals for the proposal required by applicable law. Should the Bureau continue to attempt to coordinate with state agencies as a part of this process, PFT will urge the Attorney General of the state of California to prevent the Bureau from working with state agencies on the proposal.

Given that the DEIS identifies the likely illegality of working with state agencies on this proposal, PFT is dismayed that the Bureau would continue working through a process – including the preparation of the DEIS itself – that appears to be plainly illegal. It suggests that the Bureau values the desired outcomes of the project more than the law itself, which is a dangerous position for any executive agency entrusted with enforcement of the law to take.

Low Likelihood of Attainment Maximum Water Storage Under Any Option

Each of the five action options for raising Shasta Dam in the DEIS would result in large increases to the total maximum potential water storage (aka “full pool”) for Shasta Lake, ranging from 256,000 to 634,000 acre-feet. However, as noted by the DFS, the *current* full pool is rarely reached. The figure on page 2-26 of the DFS suggests that full pool has been reached only once since 1999.

Given that the current full pool of Shasta Lake is only rarely reached, PFT does not believe there is a strong rationale for expanding the potential full pool. Shasta Dam currently fulfills its flood protection duties, and as noted above demand for water from the agricultural sector is expected to decrease by 2050. As a result, there does not appear to be a compelling need to cause widespread environmental harm and incur billions of dollars in costs.

While the DFS argues that increased surface storage is necessary given variability in California's precipitation and water usage patterns (see, eg, page 2-9), this argument fails to account for finite limits on precipitation to be expected in California in the future. In essence, building a bigger dam will not make more rain or snow fall, and as a result the shortage of supply that is highlighted by the DFS and DEIS as a rationale for the proposal will not be truly addressed. Below, we point out that modest investments in the upper watersheds of Shasta Lake can actually increase water security while not requiring an increase in the dam's height.

No Consideration of the Value of Green Infrastructure

While the Bureau insists that increasing the height of the Shasta Dam is essential for flood management and water supply in the face of climate change, the reality is that investments in upper watershed forest conservation and restoration – an example of so-called “green infrastructure” – can provide a more cost-effective means of meeting this goal.

Forest conservation is a practical and cost-effective means of ensuring the security and quality of large watersheds. Conservation reduces fragmentation of forested landscapes and enhances forest cover structure. This not only assists with water security, but it also provides significant co-benefits for wildlife. Forest conservation is also a proven tool in this context. A famous example is the conservation of forestland in New York's Catskill Mountains by New York City, to ensure a high level of water quality and security for the city's public water system. Widespread use of conservation easements on forestland in the Catskills was found to be extremely cost-effective, and saved New York City billions of dollars that would have otherwise been spent on manmade water treatment facilities.

As a complement to forest conservation, restoring wet meadows within forests can increase water storage, reduce winter flood flows, and make more water available later in the year when competing demands are at their peak. Forest restoration projects that reduce over-stocked stands can also increase surface snowpack during the winter and reduce the amount of biological uptake of water.

The absence of such modest investment options from the DEIS is striking. PFT recommends that the Bureau include a preferred option that focuses on green infrastructure investments that will enhance the ability of the forests of the upper watersheds to filter, regulate and increase water supplies to Shasta Lake. These sensible investments can provide proven economic benefits to downstream users of Shasta Lake waters, and they would likely result in greater benefits for a greater number of stakeholders than simply raising the height of the dam.

Accounting of Greenhouse Gas Emissions

Page 5-43 of the DEIS laudably states that careful accounting of GHG emissions from vegetation loss is conducted “to ensure that underestimating would not occur.” Unfortunately, the spirit of this pledge is not reflected in the overall GHG accounting provided by the DEIS. Instead, the DEIS ignores significant sources of GHG emissions arising from the proposal's five action options, including:

- GHG emissions from flooded, decomposing vegetation.
- GHG emissions from foregone sequestration.
- GHG emissions from cement manufacture and decay.

Perhaps most striking is the DEIS's statement on page 5-45 that increases in GHG emissions from foregone sequestration and decomposing organic matter are "speculative and infeasible to calculate at this time." This is simply not true, as illustrated below.

For GHG emissions from flooded and decomposing vegetation, it is possible to estimate these – particularly as it pertains to methane in the hydroelectric generation context. As noted by the DEIS, methane is a potent GHG. As noted by PFT in our comments on the DFS, methane emissions are a primary reason why hydroelectric power generation should not be considered GHG beneficial. We repeat our previous comments on the DFS, and remind the Bureau that:

Hydroelectric facilities are not as green as they first appear, particularly when the release of methane from anaerobically digested plant matter is taken into account. We note that a study publicized last year by researchers at Washington State University found that methane emissions jumped 20-fold when the water level was drawn down at Lacamas Lake in Clark County, Washington after analyzing dissolved gases in the lake. The researchers also sampled bubbles rising from the lake mud and measured a 36-fold increase in methane during a drawdown.

PFT is disappointed that despite bringing the issue of GHG emissions from anaerobic digestion of plant material to the attention of the Bureau in March, this source of GHG emissions is not considered in the DEIS. We repeat our comment that the GHG emissions of the proposal's five action options cannot be considered complete unless such an analysis occurs.

With respect to foregone sequestration benefits from flooded vegetation, the EPA's publicly available Greenhouse Gas Equivalencies Calculator (available at <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>), clearly refers to a metric for calculating foregone sequestration per acre of converted forestland. It is strange, then, that the DEIS would claim that such a calculation is speculative and infeasible.

Page 10-17 of the DEIS (Table 10-4) estimates that a maximum of 4,675 acres of forestland will be lost as a result of the proposal. Using the EPA's public calculator of forest sequestration potential, this means that a maximum of 5,704 metric tons of potential annual CO₂e sequestration will be eliminated by the proposal.[2]

Shasta Lake Water Resources Investigation Duplicate DEIS Public Comments Appendix

Over the lifetime of the project (assuming 100 years), this amounts to 570,400 metric tons of lost CO₂e sequestration. Not accounting for such a large source of GHG emissions – and foregone sequestration is a GHG source – demonstrates that the DEIS does not accurately describe the GHG emissions that would result from the proposal. Consequently, the DEIS's finding that the proposal's GHG emissions are "less than significant" is unfounded.

Not accounting for the contribution of cement manufacture and decomposition to the GHG emissions of the proposal also contradicts established mechanisms for GHG accounting. Cement manufacture is well known as a particularly GHG-intensive industry. The California Air Resources Board (ARB) estimated that in 2011 California cement plants emitted 6.14 million metric tons of CO₂e. This is roughly equivalent to the emissions required to provide electricity to over 900,000 average American homes.[3]

Given that such a large contribution to GHG emissions occurs when cement is manufactured, to say nothing of the GHG emitted as concrete decomposes, the DEIS must account for these emissions. The failure to do so is glaring, and must be corrected in order for the DEIS to credibly claim that it accounts for the GHG emissions of the proposal.

With respect to the DEIS's general finding that GHG emissions from the proposal are expected to be "less than significant," this finding appears to be based primarily on the assumption that increased hydroelectric power output will offset GHG emissions from electricity created by fossil fuels. This finding relies on two assumptions that are flawed:

- That there will be increased water supply (until 2030) to power at least 2.7GWh of increased hydroelectric generation.
- That but for the raising of the Shasta Dam, fossil fuel generation of at least 2.7GWh would occur.

As noted by the DEIS, "future conditions" will not be as favorable to increased water supply for hydroelectric power generation. One of the many expected impacts of climate change is a greater variability in precipitation and, consequently, water supply to Shasta Lake. As noted in our comments above concerning green infrastructure, the Bureau is missing an opportunity to secure clean and dependable increases in water supply by failing to include forest and wet meadow restoration in the upper watersheds as part of its proposal for Shasta Dam.

The result of this increased variability is that it is simply not certain that increased water supply – even to 2030 – would be available to generate at least 2.7GWh of increased hydroelectric power. Therefore, the DEIS should not assume that such a large increase in power could be generated annually to 2030.

The second flawed assumption of the DEIS is that but for the raising of the Shasta Dam and the generation of increased hydroelectric power, such power would be sourced from fossil fuels. There is simply no reason to make this assumption.

California law requires that 33% of the state's electricity be generated by renewable sources by 2020. This is known as the renewable portfolio standard (RPS). Between the three largest utilities in California, only about 20% of power is currently sourced from renewable sources.[4] This means that California's three main utilities must increase their supply of renewable power by around 50% over the next seven years to comply with the RPS. This is an ambitious target that means renewable power will be in high demand.

Any new hydroelectric generation that would be provided by the proposal would almost certainly be used by utilities to meet their goal under the RPS, as hydroelectric power qualifies as renewable energy. Simply put, it is infeasible that a California utility would source fossil fuel power to replace foregone hydroelectric power. In order to meet the requirement of the RPS, a utility would need to source that power from another renewable source – such as solar or wind.

Given that the water supply for the additional hydroelectric power is unreliable, and given that the additional hydroelectric power would almost certainly not be alternatively supplied by fossil fuels, the DEIS's finding that the GHG emissions from all five action options are less than significant is incorrect. In light of this, the Bureau should reevaluate the potential GHG emissions of the proposal and grant that the impacts will actually be significant and in need of mitigation.

Conclusion

PFT opposes the proposal and the five action options considered by the DEIS for implementing it. The reasons for our opposition are:

- The proposal is illegal in its effects by interfering with the free-flowing conditions of the McCloud River.
- The proposal's process is illegal, as it requires collaboration with state agencies that is prohibited by law.
- The rationale for the proposal is hollow as the action options will likely not substantially reduce expected unfulfilled CVP contractual obligations, making the high cost of the proposal unjustifiable.
- The current full pool of Shasta Lake is rarely reached, which suggests that projections of future full pool levels will be rarely reached as well.
- The DEIS does not consider a preferred alternative encompassing forest conservation and restoration activities.

Further, PFT finds that the DEIS fails to analyze the range of alternatives fully as the DEIS:

- Fails to consider in any form the value of forest conservation and wet meadow restoration projects and their ability to increase water security and supply for Shasta Lake.
- Fails to account for GHG emissions from flooded vegetation, cement manufacture and decay, and foregone sequestration.
- Fails to consider the overall policy landscape for renewable energy in California, and therefore significantly overestimates the proposal's potential mitigation of GHG emissions.

Due to the DEIS's failure to accurately account for GHG emissions and its overestimate of the benefits of hydroelectric power, the DEIS's finding that the GHG emissions of the proposal are less than significant is incorrect. Failure to address this issue in the final EIS could significantly delay the proposal.

Thank you again for the opportunity to comment on the DEIS. Please contact me if you have any questions about our comments or wish to discuss PFT's concerns in more detail. I can be reached at (415) 561-0700 x39 or by email at pdoherty@pacificforest.org.

Sincerely,

Patrick Doherty
Policy Associate, Pacific Forest Trust
1001A O'Reilly Avenue, San Francisco, CA 94129
 [\(415\) 561-0700 Ext. 39](tel:(415)561-0700)
pdoherty@pacificforest.org

[1] Our comments on this issue do not relate to the participation of the Department of Water Resources in studies involving the technical and economic feasibility of enlargement of Shasta Dam, which is apparently sanctioned by PRC § 5093.542(c).

[2] This number is probably an underestimate as the EPA's calculator uses an average for forests nationwide – the forests of northern California are very productive and sequester larger amounts of carbon per acre than the national average.

[3] Using the EPA's greenhouse gas equivalency calculator available at: <http://www.epa.gov/cleanenergy/energy-resources/calculator.html>.

[4] Please see <http://www.cpuc.ca.gov/PUC/energy/Renewables/index.htm>.

D-SLBOA Duplicate of O-SLBOA



September 26, 2013

Katrina Chow, Project Manager
Bureau of Reclamation
2800 Cottage Way, MP-720
Sacramento, CA 95825-1893

BUREAU OF RECLAMATION OFFICIAL FILE COPY RECEIVED OCT 22 2013	
720	KDuncan
23	Oct 13
for K Chow	

Katrina Chow,

This letter is written on behalf of the administration of Lake Shasta Caverns and pertains to the concerns brought forth by the SLWRI, more specifically the Draft Environmental Impact Statement (DEIS) released earlier this year.

Lake Shasta Caverns National Natural Landmark is a recreation/tourism based business that has an average of 55,000 guests annually. The proposed enlargement of Shasta Lake threatens this business in many ways.

First and foremost, there are a number of questions that arise from the lack of clarity within the document. The general concern is that the business will not survive the process of enlarging Shasta Lake.

The DEIS indicates that a portion of the property will be relocated, however there is no definite location to which it will be relocated to. Since the caverns cannot be moved our transition areas for guests are limited to a close proximity of where they currently are. The final decision of these locations will ultimately be made by the Forest Service.

For close to 13 years I have managed the caverns and have maintained a close working relationship with many in the Forest Service. For several years now we have been stalled on several additions to the caverns to increase visitation, simply because the local Forest Service has been overwhelmed with its current duties and obligations. This causes major concern since it will be this district that regulates all of the permit holders within this National Recreation Area. If having a functional relationship is hard now, what will be the outcome once all of the marinas and services are being relocated?

The regulations process for a relocation is not simple and can prove to be rather lengthy. Lake Shasta Caverns has not been approached by the Forest Service in regards to possible locations, environmental impact studies, or any other item that can give us an idea of what we will be faced with. It is reasonable to conclude that our services could be shut down temporarily during this transition process. While being shut down, up to 35 people will have no employment because the company will not have the ability to pay them. It was stated by a contractor hired by the BOR, during the July 16th workshop in Redding,

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Classification	ENR-6.00
Project	218
Control No	1304983E
Factor ID	1230427



that the current legislation prohibits the compensation of lost business income. Though we are nationally recognized, we are a small business and we will not survive a disruption in business.

Another concern is a paragraph in chapter 18, page 35 of the DEIS. This paragraph describes the consolidation of existing special use facilities on the lake. It is almost impossible to describe the complex network of business relationships and ties that all of the businesses on and near the lake need to survive. If even one business is affected, it will upset the delicate balance and the economy will suffer greatly because of it. Several services marked for abandonment include businesses that support Lake Shasta Caverns through referrals and vice-versa. As it is, most businesses on the lake have been stagnate for years. This project would surely be economically devastating to the area.

Although I do understand the demand for more water in California, the SLWRI is still very unclear as to how it intends to provide this water without destroying the recreation industry within the area. The DEIS states multiple times that recreation is a secondary planning objective and that Bureau of Reclamation intends to maintain and or increase the capacity for recreation on the lake. However there is no feasible plan in place to do so. How can we even maintain the capacity if the current plan involves consolidation of facilities? Larger marinas do not necessarily mean better marinas. In this case it is the diversity of the marinas and services that warrant a quality experiences for those who utilize Shasta Lake for recreation.

I adamantly oppose this project until there is more detail provided to Lake Shasta Caverns in regards to truly being made whole after the enlargement of Shasta Lake. Recreation should also be observed as a primary purpose of the SLWRI and not a secondary planning objective.

Respectfully,

A handwritten signature in black ink, appearing to read "Matt W. Doyle".

Matthew W. Doyle
General Manager
Lake Shasta Caverns

CC: Governor Edmund G Brown
Congressman Doug LaMalfa
Senator Jim Nielsen
Senator Dianne Feinstein

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Assemblyman Brian Dahle
Shasta County Board of Supervisors
Patrick Minturn, Shasta County Public Works
Brian Person, Area Manager/Bureau of Reclamation
Redding City Council
Redding Chamber of Commerce
City of Shasta Lake City Council
City of Shasta Lake Chamber of Commerce
Shasta Cascade Wonderland Association
Redding Convention and Visitors Bureau
Harold Jones, Sugarloaf Resorts
David Grey, Tsasdi Resorts
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D-FOTR1 Duplicate of O-FOTR1



(no subject)

Steve Evans <SEvans@friendsoftheriver.org> Mon, Sep 30, 2013 at 11:43 AM
To: "BOR-MPR-SLWRI@usbr.gov" <BOR-MPR-SLWRI@usbr.gov>

Below and attached.

Thank you.

Comments of
Friends of the River
California Wilderness Coalition
Shasta Lake Water Resources Investigation
Draft Environmental Impact Statement

September 30, 2013

Ms. Katrina Chow
SLWRI Project Manager
Bureau of Reclamation Planning Division
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Email: BOR-MPR-SLWRI@usbr.gov

Dear Ms. Chow:

Thank you for soliciting public comments in response to the Shasta Lake Water Resources Investigation (SLWRI) Draft Environmental Impact Report (DEIS). Below are the joint comments of Friends of the River and the California Wilderness Coalition. Friends of the River's Executive Director, Bob Center, will be submitting separate comments before the deadline. In addition, Friends of the River contributed to and hereby incorporate by reference the joint comments to be submitted by the California Environmental Water Caucus. We also hereby incorporate by reference the joint comments of Friends of the River and the California Wilderness Coalition to the SLWRI Draft Feasibility Study and Preliminary DEIS, dated January 28, 2013. We also hereby incorporate by reference verbal comments made for Friends of the River by Steven Evans at the public hearings held in Redding and Sacramento on September 10 and 11, 2013.

1. Unavailability Of Hard Copies Of The DEIS Made Public Review Of This Massive And Complicated Document Difficult.

Friends of the River must protest the failure of the Bureau of Reclamation to provide hard copies of the SLWRI DEIS to the interested public. It is almost impossible to thoroughly review such a massive document online or via disc. Failing to provide printed copies of this document to those interested in conducting a thorough public review is a "penny wise, but pound foolish" approach to NEPA. We believe that a revised DEIS will be necessary and hereby request a hard copy of any future SLWRI documents.

2. The DEIS Fails To Admit The Connection Between The SLWRI And The Bay Delta Conservation Plan.

The SLWRI draft Feasibility Report clearly documents that every additional drop of water stored by a raised dam and expanded reservoir will be sold to federal water contractors. This not only refutes the Bureau's claim that the primary benefit of the dam raise is improved fisheries, it also underscores a direct connection to the SLWRI with the Bay-Delta Conservation Plan (BDCP). The current version of the BDCP proposes construction of two giant tunnels beneath the Delta to facilitate export of Sacramento River water south. The DEIS's and Feasibility Study's summary of benefits from the dam raise clearly show that 77% of the water stored behind a raised Shasta Dam will be sold to water contractors south of the Delta (the remainder will be sold to north of Delta contractors). The DEIS fails to document this important connection and is violation of the public disclosure mandate of the National Environmental Policy Act.

A revised DEIS must clearly document the connection between the SLWRI and BDCP and

fully disclose the role this connection plays in the cost-benefits of the SLWRI.

3. Raising Shasta Dam Will Not Significantly Increase Anadromous Fish Survival As Claimed In The DEIS.

The DEIS predicts that the dam raise alternatives will increase juvenile anadromous fish survival by 61,000 to 813,000 fish annually. (DEIS Table S-2, pg. ES-26) This is a misleading way to present the alleged benefits of the proposed dam raise. Although increasing juvenile salmon survival by up to 813,000 fish sounds significant, the less than 1% return rate of juveniles as adults three years later means that this billion dollar or more project may produce fewer than 813 additional adult salmon in any one year, and in most years, considerably less than that number.

It is questionable as to whether the Bureau will operate the raised dam and expanded reservoir in a way that guarantees that the cold water pool will be available during the dry and critically dry years when water temperatures are a major factor in juvenile salmon survival. Sadly, there are no hard or firm standards that the Bureau is apparently required to follow. When the Bureau finds it inconvenient to meet temperature standards for juvenile salmon survival, it simply "coordinates" (a polite way of saying it pressures) state and federal regulatory agencies to agree to move the temperature control point on the Sacramento River to a spot more convenient for the Bureau's dam and reservoir operations. The Sacramento Basin Water Quality Control Plan unequivocally sets the salmon temperature control point at Red Bluff. Over the years, the Bureau has found it convenient to move this control point further upstream to Bend, Balls Ferry, and in 2013, even further upstream to a point near Anderson.

In its draft Fish and Wildlife Coordination Report (June 2013), the U.S. Fish and Wildlife Service (USFWS) found the dam raise/expanded reservoir benefits of the dam raise to be "negligible". According to the USFWS, in 90% of the years, the dam raise/expanded reservoir will provide no benefits for juvenile salmon. In addition, the USFWS found that most of the fish benefits identified in the SLWRI are from spawning gravel augmentation and side channel rearing habitat restoration –

mitigation measures that are not dependent on the dam raise/reservoir expansion and that can be implemented regardless whether the dam is raised.

It is important to recognize that the existing dam and reservoir can be operated to maintain an abundant population of endangered winter-run Chinook salmon. The completion of Shasta Dam in 1945 should have doomed this fish to quick extinction since access to its primary spawning grounds on the McCloud and upper Sacramento Rivers were permanently

blocked by the dam. But once the reservoir was filled, operations of the dam in its first two decades "provided in-river conditions that sustained the winter-run Chinook population. Abundance estimates for winter-run Chinook in the 1960s ranged from a high of 125,000 in 1962 to a low of 49,000 in 1965." (National Marine Fisheries Service 1997 Proposed Winter-Run Recovery Plan, pg. II-12) Essentially, the winter-run became dependent on cold water releases from Shasta Dam for its survival. But since 1970 to the present, dam operations have consistently failed to provide cold water to the river in order to meet federal water contract commitments in the Sacramento-San Joaquin Delta.

The question is: If the existing dam and reservoir can be operated in a manner that can provide the needed cold water for improved juvenile salmon survival, why is this not an alternative under serious consideration in the SLWRI? The answer is found on DEIS page 2-49, where the Bureau states:

The adaptive management plan (for the proposed cold water pool created by the raised dam/enlarged reservoir) may include operational changes to the timing and magnitude of releases from Shasta Dam to benefit anadromous fish, as long as there are no conflicts with operational guidelines or adverse impacts on water supply reliability. (Emphasis ours)

This simple statement clearly demonstrates the Bureau's lack of commitment to operate Shasta Dam and Reservoir to benefit endangered salmon regardless of whether the SLWRI is implemented or not. It reveals that the true purpose of the SLWRI is to increase the water supply for water contractors.

4. Key Recovery Actions In The 2009 Central Valley Salmon and Steelhead Recovery Plan Are Not Considered In the SLWRI DEIS.

The National Marine Fisheries Service's (NMFS) 2009 Central Valley Salmon and Steelhead Recovery Plan proposed a number of actions to protect and restore all runs of salmon and steelhead in the Sacramento River and its tributaries. Just a few of these actions include regulating pollution discharges from agricultural and urban sources, setting back and maintaining riparian vegetation on flood control levees, restoring 185 miles of continuous riparian habitat between Red Bluff and Sacramento, screening water diversions that have substantial fishery impacts, curtailing development in flood plains, negotiating additional instream flows or purchasing water rights, remediating acid mine pollution, and restoring the former footprint of Lake Red Bluff to riparian habitat.

The DEIS ignores most of these actions and only obliquely refers to others. For example, it is unclear that adaptive management flows mentioned in the DEIS are the same thing as this specific recovery action proposed by the NMFS:

Implement a river flow management plan that balances carryover storage needs with instream flow needs for winter-run Chinook salmon based on runoff and storage conditions, including flow fluctuation and ramping criteria (USFWS 2001).

A revised SLWRI DEIS should include sufficient detail and information to make it clear whether adaptive management flows proposed in the DEIS meet the intent of the recovery action proposed in the Recovery Plan.

The Recovery Plan also calls for the restoration of 185 miles of continuous riparian habitat along the Sacramento River between Red Bluff and Sacramento. It is important to note that the USFWS clearly believes that “the reduction in winter flows with the raising of Shasta Dam would result in adverse effects to riparian habitat along the Sacramento River...” (USFWS Coordination Report pg. 176) The SLWRI proposes as a specific restoration measure to restore riparian habitat in the upper and lower Sacramento Rivers (upstream and downstream of Red Bluff respectively) the development and implementation of a Riverine Ecosystem Mitigation and Adaptive Management Plan (REMAMP). The plan will supposedly avoid and compensate for the impact of altered flow regimes on the river’s riparian and wetland communities. But little information is provided in regard to the REMAMP, which apparently does not exist even in draft or outline form, nor does it seem to apply to the Delta (as recommended in the Recovery Plan). There is no assurance that the REMAMP will actually meet the riparian habitat restoration objective found in the Recovery Plan.

In addition, some impacts identified in the DEIS imply that conditions for fish populations targeted for recovery may worsen. For example, remediation efforts at Iron Mountain Mine now controls 95% of the mine pollution that formerly flowed into the river. But the USFWS in its coordination report notes that the SLWRI reservoir expansion may exacerbate acid mine pollution by inundating additional abandoned mines and mine tailings that could leach additional metals into the river. The DEIS notes that “In addition to runoff from the historic workings (i.e., adits and portals), a number of large mine tailing deposits are currently leaching various metals into tributaries of Shasta Lake.” (DEIS pg. 7-15) The Bureau apparently eliminated reducing acid mine and metal pollution as a recovery objective from the SLWRI “due to numerous implementation issues.” It proposes to prepare and implement a site-specific Remediation Plan for historic mine features subject to inundation but its not clear if this will be completed in time to allow for the completion of the dam raise and filling of the enlarged reservoir, nor is it clear whether this mitigation meets the intent of the Recovery Plan.

The Recovery Plan recommends minimum instream flows and ramping rates to benefit salmon. The DEIS notes that the 1993 NMFS Biological Opinion (BO) set minimum flows in the river, but it is unclear whether these are the same minimum flows recommended in the Recovery Plan, nor does the BO address ramping rates. Interestingly, the primary fish recovery goal of SLWRI alternative CP4 is to provide a more "fish-friendly" environment with "reservoir storage dedicated to fish, to either improve flows or water temperatures." (DEIS pg. 11-54, emphasis ours) This is hardly the firm recovery objective outlined in the Recovery Plan. Apparently, the Bureau believes it can either improve flows or temperatures but not both. The primary constraint is the reservation of much of the existing storage, as well as the additional water provided by the raise, to meet water contract commitments.

Another recovery action virtually ignored in the DEIS is the reduction of agricultural and urban pollution into the Sacramento River and Delta. Although there are a number of mitigation measures in the DEIS to reduce pollution from construction and other upland activities into Shasta Reservoir, there is little assessment of the need to reduce agricultural, municipal, and industrial pollution into the Sacramento River downstream of the Dam, in order to reduce adverse impacts on salmon. For example, one of the specific recovery actions outlined by NMFS in its original 1997 winter run recovery plan is to control contaminant input from the Colusa Basin Drain, which visibly degrades the water quality of the Sacramento River. The Drain is the largest source of agricultural pollution to the river and is a major source of pesticides, turbidity, sediments, nutrients, dissolved solids, trace metals, and warm water into the river. Exposure of juvenile salmon to this kind of pollution is suspected to be detrimental. And yet, there is no effort in the SLWRI to consider pollution remediation in the river downstream of Shasta Dam as yet another action that could be taken to improve juvenile salmon survival.

In addition, the Recovery Plan proposes to restore key populations to former habitat that has become inaccessible due to dams, including Shasta Dam. The DEIS pays short shrift to this proposal, which is particularly inexcusable given the alleged focus of the SLWRI.

If the Bureau is truly serious about improving salmon survival, a revised SLWRI should incorporate more of the Recovery Actions outlined in the NMFS Recovery Plan. In addition, the SLWRI should seriously consider an alternative that re-operates the existing dam/reservoir in order to fully meet downstream temperature needs and flow requirements (for salmon as well as riparian habitat). A revised DEIS must connect the key objectives and recovery actions in the 2009 Recovery Plan to the mitigation measures proposed in the SLWRI DEIS. Further, the revised DEIS should evaluate and determine the feasibility and role of the Bureau in implementing all recovery actions, particularly in restoring populations upstream of Shasta Dam.

A revised SLWRI should include an alternative that focuses on the salmon improvement measures recommended in the USFWS Coordination Report, including restoration of spawning and rearing habitat, improving fish passage, increasing minimum flows, and screening water diversions. (USFWS Coordination Report pg. v), as well as other specific management measures initially considered in the SLWRI but removed from further analysis (as outlined in the USFWS Report pg. vi).

5. The Project's Impacts On Sensitive, Threatened, And Endangered Species Are Underestimated In The DEIS.

The DEIS admits that there will be significant and unavoidable impacts on a number of sensitive, threatened, and endangered wildlife species and their habitat, including the Shasta salamander, foothill yellow-legged frog, tailed frog, northwestern pond turtle, bald eagle, northern spotted owl, purple martin, willow flycatcher, Vaux's swift, yellow warbler, yellow-breasted chat, long-eared owl, northern goshawk, Cooper's hawk, great blue heron, osprey, red-tailed hawk, red-shouldered hawk, American robin, Anna's hummingbird, Pacific fisher, American marten, ringtails, eight special status bat species, and four special status mollusks.

The DEIS also admits to significant and unavoidable permanent loss of general wildlife habitat and critical deer winter and fawning range. According to the DEIS, impacts associated with the take and loss of the endangered California red-tailed frog are still to be determined. And also according to the DEIS, impacts on riparian associated special status wildlife species may be potentially significant but are supposedly reduced to less than significant by the development and implementation of the previously mentioned but amorphous Riverine Ecosystem Mitigation and Adaptive Management Plan.

Despite the fact these significant and unavoidable impacts on these many sensitive and special status wildlife species are documented in the DEIS, the document fails to adequately reveal the serious nature of these impacts, particularly on the seven rare but not federally listed species endemic (found nowhere else) to the Shasta Reservoir vicinity, including the Shasta salamander, two rare plant species, and three rare snails (mollusks).

Some species are particularly susceptible to inundation by the expanded reservoir. For example, tree snags in the Pit River Arm of Shasta Reservoir appear to support a stable population of 18 breeding pairs of purple martin, a migratory bird that is generally uncommon in California and is considered by the California Department of Fish and Wildlife to be a species of special concern. The Pacific Coast population of purple martin has substantially declined in the last 50 years. Raising Shasta Dam will completely submerge the martin's existing nesting habitat and it would take decades for new nesting snags to become

available to replace the lost habitat.

A revised DEIS should better document significant and unavoidable impacts on endemic and other special status species and more fully consider alternatives that reduce the impacts to insignificant levels.

6. The DEIS Underestimates Impacts Of Modified Flows From A Raised Shasta Dam On The Sacramento River And The Proposed Mitigation Measure Is Too Vague And Incomplete.

The DEIS claims that potentially significant impacts on riparian associated aquatic and terrestrial special status wildlife due to modifications of the existing flow regime caused by the dam raise will be reduced to less than significant levels by the development and implementation of a Riverine Ecosystem Mitigation and Adaptive Management Plan (REMAMP). The DEIS also recognizes that the impacts of flow modification on riparian habitat and ecosystem processes is inconsistent with local and regional plans and goals promoting riparian habitat on the Sacramento River. The DEIS notes that these are potentially significant impacts reduced to less than significant levels by the proposed REMAMP.

The USFWS unequivocally states that reduced winter flows caused by the raising of Shasta Dam will result in adverse effects to riparian habitat along the Sacramento River. So these are real issues but unfortunately, the proposed mitigation (the REMAMP) does not yet exist, so there is no way for the public to understand just how the proposed mitigation will truly reduce these impacts to insignificance.

Flow modification impacts to the Sacramento River's riparian and aquatic ecosystems, and the many sensitive, threatened, and endangered fish and wildlife species that depend on these dynamic ecosystems, are generally given short shrift throughout the DEIS. These impacts were well documented in Sacramento River Ecological Flows Study Final Report (CALFED Ecosystem Restoration Program, March 2008). Just a few of the more pertinent facts from this report include:

- Dam-related alterations of river flow regimes have been identified as one of the three leading causes of declines in imperiled aquatic ecosystems.

- Available data support the hypothesis that the reduced frequency and duration of floodplain inundation in the post-dam era may have contributed to the decline of the winter-run Chinook population.
- The Shasta Dam raise will reduce the "stream power" of the Sac by 16% and reduce the amount of floodplain area reworked by high flows by 8%. Diversions from the river to fill the proposed Sites Offstream Storage Reservoir (another CALFED water storage project under study) will further reduce the river's stream power by up to 15%.
- Fremont cottonwood initiation success, Chinook and steelhead rearing WUA (weighted useable area), and Chinook and steelhead redd scour risk are the indicators most sensitive to flows.
- The altered hydrograph of the Sac River appears to limit cottonwood seedling survival.
- Maintaining natural channel migration and cutoff processes is necessary for providing new patches for seedling recruitment and for periodical resetting of riparian vegetation succession, which are both critical for maintaining the diverse, dynamic, and functional riparian-floodplain ecosystem.
- Reductions in peak flow magnitude will likely reduce bank erosion and thus have potential impacts on spawning gravel availability, and might also affect lateral channel migration, which is essential for creating off-channel habitats important to many Sacramento River species.
- The flow impacts of the Shasta Raise and Sites combined are expected to reduce progressive channel migration by approximately 10%.
- As flows recede below 8,500 cfs, the inlets of secondary channels (which provide crucial habitat for juvenile salmon) become increasingly disconnected from the main stem.
- Removing rip-rap (bank revetment) may mitigate the floodplain impacts of the Shasta Raise (note: this is not a proposed mitigation in the DEIS).

- Revetment removal plus flow management that allows occasional high flows are both necessary and sufficient for habitat creation and persistence.
- The importance of fish passage improvements is strongly suggested by past studies; assessment of benefits only possible through implementation and monitoring.
- The CALSIM II model, which is used in the DEIS to assess the flow impacts of the dam raise, functions at a monthly time-step, which is a recognized shortcoming. Daily flow disaggregations below Red Bluff used in our study are known to be flawed and do not remain consistent with monthly time-step totals. (Note: Development and use of a true daily flow model is also a NMFS recommended recovery action).

These findings clearly underscore the potential severity of flow modification impacts on the Sacramento River ecosystems, the sensitivity of the river to multiple impacts caused by current projects under study (SLWRI and Sites), and the need for a well defined, detailed, and permanent plan that assures true mitigation of these impacts. A revised DEIS should fully assess flow modification impacts on the river, its ecosystems, and fish and wildlife species, and include at least a draft Riverine Ecosystem Mitigation and Adaptive Management Plan for review and comment by the public. In addition, this plan should fulfill the role of the Sacramento River and Delta Riparian Habitat Restoration and Management Plan outlined in the NMFS Recovery Plan and noted as a needed mitigation measure in the USFWS Coordination Report. The Adaptive Management Plan should also fully comply with all local and regional plans to protect and restore riparian habitat along the river.

It is even more important that this Adaptive Management Plan be completed and available for public review in the revised DEIS because it will determine the future health of riparian and aquatic ecosystems on more than 31,000 acres of federal, state, and other public lands that support some of the most important riparian and aquatic habitat on the Sacramento River (including the BLM's Sacramento River Bend Outstanding Natural Area, the USFWS' Sacramento River National Wildlife Refuge, State Wildlife Areas managed by the California Department of Fish and Game, four State Parks and Recreation Areas, and several local parks and recreation areas).

It is unclear whether the adaptive management plan intended to benefit salmon is the same adaptive management plan intended to benefit the downstream riparian and aquatic ecosystems. The term "adaptive management plan" seems to be interchangeable throughout the DEIS. If they are the same plan, then we assume that the Bureau's qualification about the timing and magnitude of releases from Shasta Dam to benefit downstream ecosystems

will be applied – “as long as there are no conflicts with operational guidelines or adverse impacts on water supply reliability.” (DEIS pg. 2-49) If this is the case, it is clear that this proposed Adaptive Management Plan will not reduce the flow modification impacts on riparian and aquatic ecosystems to less than significant levels simply because water contracts will always trump well meaning but relatively toothless mitigation measures.

7. Impacts Of Reservoir Enlargement On Potential Wild & Scenic Rivers

Enlarging Shasta Reservoir by raising the dam from 6.5 to 18.5 feet will flood public lands managed by the Forest Service encompassing segments of the upper Sacramento, McCloud, and Pit Rivers, Salt Creek, and several small tributary streams. This flooding, however minor it may seem to the Bureau, triggers several requirements and mandates in the National Wild & Scenic Rivers Act. Although the DEIS attempts to address Wild & Scenic River issues in Chapter 25, it fails to recognize the actual requirements of the Act and the true implications of the reservoir enlargement in regard to previous Forest Service studies and commitments made in the 1994 Shasta-Trinity National Forests Plan. Nor does the DEIS adequately address the impacts of reservoir enlargement and the legal implications of violating the California Public Resources Code.

8. The National Wild & Scenic Rivers Act requires consideration by all federal agencies of federal Wild & Scenic River protection for the McCloud, upper Sacramento, and Pit Rivers, and other reservoir tributaries as an alternative to the federal proposal to raise the dam and expand the reservoir.

Section 5(d)(1) of the National Wild & Scenic Rivers Act states:

In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic, and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic, and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.

This section of federal law clearly requires the Bureau of Reclamation to go beyond the simple reporting of past state and federal considerations of Wild & Scenic protection for the

river segments affected by the SLWRI. It specifically requires consideration of Wild & Scenic protection in the context of and as an alternative to the proposed dam raise and reservoir enlargement, not only for the McCloud, but also for the upper Sacramento and Pit Rivers, and all other streams on public lands tributary to Shasta Reservoir. No such comprehensive assessment of Wild & Scenic Rivers is provided in the DEIS.

The Bureau should work with the Forest Service to include in a revised DEIS a comprehensive assessment specifically addressing the impacts of the dam raise and reservoir enlargement on the free flowing character and outstanding values of all rivers and streams tributary to the reservoir and include a range of alternatives that proposes Wild & Scenic protection with and without various reservoir enlargement alternatives.

For example, the Forest Service in the 1994 Shasta-Trinity National Forests Draft Plan found the upper Sacramento River from Box Canyon Dam to the Whiskeytown-Shasta-Trinity National Recreation Area to be eligible for federal protection, but the agency did not recommend it because of land ownership patterns along the river. But the river was also not actively threatened by reservoir expansion at that time. The Wild & Scenic Rivers Act requires the Forest Service and the Bureau to revisit potential Wild & Scenic protection of the upper Sacramento River in the context of the project outlined in the revised DEIS, as well as for other rivers and streams that may be affected by reservoir expansion.

The Bureau of Reclamation has previously recognized the clear mandate of the National Wild & Scenic Rivers Act to consider and evaluate potential Wild & Scenic Rivers as potential alternative uses to water and related land resources in the planning for water development. As part of its planning and study of the Auburn Dam project on the North and Middle Forks of the American River, the Bureau convened a multi-agency interdisciplinary team that determined segments of the river that would be flooded by the dam proposal to be eligible for Wild & Scenic protection in 1993 (letter dated March 17, 1993 from Susan E. Hoffman, Division of Planning and Technical Services Chief, U.S. Bureau of Reclamation Mid-Pacific Region). The study to determine if the eligible segments were suitable for designation was scheduled for Phase II and III of the American River Water Resources Investigation. This part of the study was never completed because soon after the eligibility finding, Congress rejected authorization of the Auburn Dam project.

9. The National Wild & Scenic Rivers Act requires consideration of federal Wild & Scenic River protection for the segments of the lower Sacramento River with significant federal lands downstream of Shasta Dam as an alternative to the federal proposal to raise the dam and expand the reservoir.

The lower Sacramento River between Anderson and Colusa has several segments with substantial federal public lands managed by the Bureau of Land Management (BLM) and the U.S. Fish and Wildlife service (USFWS). In its draft Fish and Wildlife Coordination Report, the USFWS stated "Riparian and floodplain habitat along the Sacramento River and in the Yolo and Sutter Bypasses would be adversely affected by further changes in the timing, duration, and frequency of flood flows due to an enlarged Shasta Dam." (USFWS Draft Coordination Report, pg. viii, June 2013) Even the SLWRI DEIS admits that flow modification from the dam raise may have potentially significant impacts on the river's riparian and aquatic ecosystems and fish and wildlife. These agency findings clearly trigger the section 5(d)(1) requirement that the federal segments of the lower river be studied and considered for potential federal protection as an alternative to the proposed water resources project.

The BLM manages nearly 18,000 acres of federal public lands as the Sacramento River Bend Outstanding Natural Area (SRBONA), which encompasses a 25-mile stretch of the Sacramento River between Balls Ferry and Red Bluff. The BLM found the federal portions of this segment to be eligible for National Wild & Scenic River protection in recognition of its free flowing character and outstandingly remarkable scenic quality, recreation opportunities, cultural/historic values, anadromous and resident trout fisheries, and vegetation. The outstandingly remarkable vegetation value was specifically defined as the river's Great Valley oak riparian forests. (BLM Redding Resource Management Plan and ROD, and BLM Redding RMP FEIS, June 1993 and July 1992 respectively)

In addition to the Wild & Scenic finding, BLM management direction designated the river as an Outstanding Natural Area and requires protection and enhancement of the river's riparian vegetation, wetlands, and anadromous fisheries. BLM management direction for the SRBONA also included the long-term survival of special status species, maintenance and improvement (if feasible) of scenic quality, conserving archeological resources, and providing for semi-primitive recreation opportunities. In addition, general policy and program direction in the BLM Manual and the Redding RMP require the BLM to protect the free flowing character and specific outstandingly remarkable values of all eligible rivers.

Determining the suitability of the eligible Sacramento River segment was deferred by BLM due to budgetary and personnel constraints (BLM Redding RMP pg. 28, June 1993) The BLM Manual specifically states in regard to water resources projects that may affect eligible or suitable Wild & Scenic Rivers:

The BLM should, within its authority, consider protecting the river values that make the river eligible or suitable through the land use plan and activity-level NEPA analysis. If a river is listed in the Nationwide Rivers Inventory, the Federal agency involved with the proposed action must consult with the land-

management agency in an attempt to avoid or mitigate adverse effects. (BLM Manual 6400-WILD AND SCENIC RIVERS—POLICY AND PROGRAM DIRECTION FOR THE IDENTIFICATION, EVALUATION, PLANNING, AND MANAGEMENT, Sec. 3.8(D), pg. 3-14 7/13/2012)

The SLWRI DEIS mentions BLM management responsibility for public lands along the Sacramento River in several sections. It also mentions the BLM's Wild & Scenic eligibility finding for the Sacramento River between Balls Ferry and Iron Canyon and notes that BLM management direction requires its public lands along the river to be "managed to protect the outstandingly remarkable values and free-flowing character..." However, the documentation of BLM's responsibilities ends there in the SLWRI. There is no connection made between the Sec. 5(d)(1) mandate to consider potential Wild & Scenic protection of the river as an alternative to the SLWRI nor is there any substantive discussion about how the dam raise could modify flows and adversely affect the river's outstandingly remarkable anadromous fisheries and riparian forests, which make the river eligible for Wild & Scenic protection.

The SLWRI DEIS fails to connect the Bureau's proposed alternatives with the BLM's mandate to protect the river's eligible segment. The SLWRI is also inconsistent with the BLM's current management direction for this part of the Sacramento River. As part of a revised DEIS, the Bureau must consult with the BLM and pursuant to Sec. 5(d)(1) of the Act the BLM must initiate a Wild & Scenic River suitability study for the segment of the Sacramento River identified as eligible by the BLM as an alternative to the SLWRI.

10. The DEIS fails to recognize that Sec. 5(d)(1) of the National Wild & Scenic Rivers Act also applies to federal public lands that comprise the Sacramento River National Wildlife Refuge.

The USFWS manages more than 10,300 acres of federal public lands along the Sacramento River between Red Bluff and Colusa as the Sacramento River National Wildlife Refuge. These lands were acquired by the USFWS and incorporated in the Refuge in order to protect and restore riparian and aquatic habitats and the many sensitive, threatened and endangered species that depend on these habitats. As far as we know, none of the Refuge lands along the river have been studied for their Wild & Scenic eligibility or suitability per sec. 5(D)(1) of the Act. Nor does the DEIS make any mention of potential Wild & Scenic eligibility and suitability of these segments.

A revised DEIS, the Bureau must consult with the USFWS and pursuant to Sec. 5(d)(1) of

the Act, the USFWS must initiate a Wild & Scenic River suitability study for the Refuge segments of the Sacramento River as an alternative to the SLWRI.

11. The DEIS admits that all alternatives to raise the Shasta Dam and expand its reservoir will adversely affect the McCloud River's eligibility as a National Wild & Scenic River and will specifically harm the river's free flowing character, water quality, and outstandingly remarkable values.

In Chapter 25, the DEIS documents that raising Shasta Day by 6.5-18.5 feet will flood from 1,470 feet to 3,550 feet of the segment of the McCloud River eligible for National Wild & Scenic River protection. The DEIS also admits that this flooding will adversely affect the McCloud's free flowing character, water quality, and outstandingly remarkable Native American cultural, wild trout fishery, and scenic values.

Conservationists believe that even more of the eligible segment of the McCloud River will be harmed by the dam raise alternatives because the Bureau incorrectly identifies elevation 1,070 feet as the terminus of the McCloud segment identified by the Forest Service. In fact, the terminus of the eligible McCloud segment is simply defined by the Forest Service as "Shasta Lake". (LRMP FEIS, Appendix pgs. E-4, E-13) The Forest Service's map depicting the eligible segment of the McCloud shows that eligible segment ends at the McCloud River Bridge (FEIS Appendix E pg. 3-36). There is no mention of elevation 1,070 as the terminus of the eligible segment and there is no reference in the LRMP to the McCloud's so called "transition reach". Hence, the impact of the dam raise and reservoir expansion is greater than what is documented in the DEIS.

12. Flooding the McCloud River violates the 1995 Shasta-Trinity National Forests Land and Resource Management Plan and Record of Decision in regard to protecting the McCloud River's eligibility as a potential National Wild & Scenic River.

The Forest Service recommended Wild & Scenic River protection for the McCloud River in its 1990 draft of the Shasta-Trinity National Forests Land and Resource Management Plan (LRMP). In response to concerns expressed by river-side landowners, the Forest Service chose to pursue protection of the McCloud River's free flowing character and outstandingly remarkable values through a Coordinated Resource Management Plan (CRMP) developed by the Forest Service and other federal and state agencies and the riverside landowners. This decision is reflected in the 1995 final Shasta-Trinity National Forests LRMP and Record of Decision (ROD), which state:

A Coordinated Resource Management Plan (CRMP) has been adopted for long term management of the Lower and Upper McCloud River and Squaw Valley Creek. This agreement is between private land owners, the Forest Service, Pacific Gas & Electric, Nature Conservancy, CalTrout, and the DFG. This plan will effectively maintain the outstandingly remarkable values of this potential wild and scenic river. If for any reason the terms of the CRMP are not followed and the wild and scenic river eligibility is threatened, the Forest Service will recommend these segments for Federal Wild and Scenic designation. (1995 Final LRMP, page 3-23)

If, after a period of good faith effort at implementation, the CRMP fails to protect the values which render the river suitable for designation then the Forest Service will consider recommendation to the national Wild and Scenic River System. (1995 ROD page 17)

The DEIS admits that raising the dam will periodically flood 1,470 feet of the eligible segment of the McCloud River, which would make the flooded segment ineligible for federal Wild & Scenic protection. (DEIS pg. 25-26) Conservation groups believe that more of the eligible river would be flooded (see discussion below about the actual terminus of the eligible McCloud). Regardless, it is clear that the Bureau's proposal to raise Shasta Dam and expand its reservoir directly violates the intent and constitutes failure of the CRMP, and it also violates the protective management proposed in the LRMP. Therefore, the Forest Service is bound by its own ROD to consider and recommend federal protection for the river. This requirement is not reflected in the DEIS and it should be included in the revised DEIS.

The Bureau is misleading the public when it claims that raising the dam and expanding the reservoir will not conflict with the Shasta-Trinity National Forests LRMP because the portion of the McCloud that would be flooded is private land and not National Forest land. The Forest Service has the authority to study and recommend the river within its reservation boundary, as it did so in the 1990 draft LRMP. It has the authority to determine that reservoir expansion and flooding of the eligible segment of the McCloud reflect a de-facto failure of the CRMP and therefore triggers Forest Service reconsideration of its Wild & Scenic River recommendation for the McCloud. This important protection is a fundamental component of the LRMP, which means that the Bureau's proposal violates the LRMP.

13. All dam raise/reservoir enlargement alternatives violate the California Public Resources Code 5093.542 prohibiting the construction of a reservoir that would harm the McCloud's free flowing condition and extraordinary wild trout fishery upstream of the McCloud River Bridge.

In 1989, the California Legislature passed and the Governor signed legislation declaring that the McCloud River possesses extraordinary resources, including one of the finest wild trout fisheries in the state, and that continued management of river resources in their existing natural condition represents the best way to protect the unique fishery of the McCloud, and that maintaining the McCloud in its free-flowing condition to protect its fishery is the highest and most beneficial use of the waters of the river.

The legislation specifically prohibited any dam, reservoir, diversion, or other water impoundment on the McCloud River upstream of the McCloud River Bridge. It also prohibited any state agency cooperation, participation, or support for any dam, reservoir, diversion, or other water impoundment facility that could have an adverse effect on the free flowing condition of the McCloud River or on its wild trout fishery. These prohibitions and conditions are now memorialized in the California Public Resources Code (PRC) 5093.542.

The DEIS admits that all dam raise alternatives will have a significant unmitigated impact on the McCloud's free flowing condition and will have a potentially significant impact on the river's wild trout fishery (DEIS pg. 25-40). The DEIS suggests that the wild trout fishery impacts could be mitigated to less than significant levels but these mitigations have yet to be identified. Regardless, all the dam alternatives in the DEIS clearly violate state law. To ensure compliance with PRC 5093.542, the California Legislature and the Governor passed and signed statewide water bond legislation prohibiting use of the bond funds to raise Shasta Dam.

Clearly, the SLWRI's proposal to raise Shasta Dam and expand its reservoir violates state law. So why is the Bureau continuing to study this illegal project? Does the Bureau intend to cite federal preemption over state law in regard to this matter? If so, the DEIS should admit this.

14. The DEIS fails to mention that the Sacramento River between Anderson and Colusa is in the Nationwide Rivers Inventory and is protected by Presidential Directive.

A segment of the Sacramento River from the I-5 bridge crossing in Anderson to Arnold Bend upstream of Colusa was included in the National Park Service's 1982 Nationwide Rivers Inventory (NRI). The NRI was created by a directive from President Carter. The directive requires each federal agency, as part of its normal planning and environmental review process, to take care to avoid or mitigate adverse effects on rivers identified in the NRI. Further, all agencies are required to consult with the National Park Service prior to taking actions which could effectively foreclose wild, scenic or recreational status for rivers on

the inventory.

The NRI describes this segment of the Sacramento River as a swift moving river isolated from surrounding civilization by a narrow band of dense riparian vegetation that meanders over a wide area with numerous islands and oxbow lakes. It also notes that the river flows through scenic Iron Canyon with a stretch of rapids, supports important anadromous fish populations and the state's most important salmon spawning grounds, includes outstanding riparian habitat for the yellow-billed cuckoo and giant garder snake, provides excellent rafting and boating opportunities, receives intense recreational use with fishing as the most popular activity, and is an important popular recreation resource for nearby urban areas.

There is no mention in the SLWRI of the NRI segment of the Sacramento River, the mandate to avoid or mitigate adverse effects on the NRI segment and its specific outstanding values, or the requirement to consult with the National Park Service. A revised DEIS should substantively address these issues.

15. The DEIS fails to adequately identify potential project effects on protected National Forest roadless areas and the Whiskeytown-Shasta-Trinity National Recreation Area.

A portion of the boundaries of the Backbone and Devil's Rock roadless areas on the Shasta-Trinity National Forests parallel the existing reservoir's high water line. The action alternatives could flood a portion of the roadless areas, which are protected under the Roadless Area Conservation Rule. While the DEIS admits to significant unavoidable impacts on National Forest lands and resources, as well as non-compliance with existing Forest Service management, it fails to describe the adverse impacts on federally protected roadless areas. The revised DEIS should include consideration of these impacts.

The DEIS fails to adequately consider the impacts of the dam raise alternatives on the Whiskeytown-Shasta-Trinity National Recreation Area (WSTNRA). The WSTNRA was established by Congress and President Kennedy in 1963 to:

...provide, in a manner coordinated with the other purposes of the Central Valley project, for the public outdoor recreation use and enjoyment of the Whiskeytown, Shasta, Clair Engle, and Lewiston reservoirs and surrounding lands in the State of California by present and future generations and the conservation of scenic, scientific, historic, and other values contributing to public enjoyment of such lands and waters... (16 USC Sec. 460q)

The DEIS documents the impact on recreation facilities, but fails to adequately identify the impacts on scenic, scientific, historic and other public land values the WSTNRA was established to conserve. Further, it is not clear that the impacts on recreation and recreation infrastructure will be fully mitigated. Although owners of private resorts and other recreation facilities will be reimbursed for the fair market values of their property, they will not be reimbursed for the loss of income nor is there any guarantee that these owners will be able to replace their facilities to provide comparable services in the future.

In addition, the DEIS fails to assess the impacts of moving existing facilities elsewhere on undeveloped National Forest lands. A revised DEIS must fully assess the impacts of the proposed dam raise on the all the purposes of the WSTNRA, as well as the actual impacts on private recreation facilities, and the impacts of proposed relocation of public and private facilities.

16. Summary

In summary, there are numerous deficiencies in the SLWRI DEIS. Friends of the River and the California Wilderness Coalition believe that a revised DEIS is required to correct these deficiencies and to allow for full disclosure to the public.

Sincerely,

Steven L. Evans

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Comments of
Friends of the River
California Wilderness Coalition
Shasta Lake Water Resources
Investigation Draft Environmental Impact
Statement



September 30, 2013

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Dear Ms. Chow:

Thank you for soliciting public comments in response to the Shasta Lake Water Resources Investigation (SLWRI) Draft Environmental Impact Report (DEIS). Below are the joint comments of Friends of the River and the California Wilderness Coalition. Friends of the River's Executive Director, Bob Center, will be submitting separate comments before the deadline. In addition, Friends of the River contributed to and hereby incorporate by reference the joint comments to be submitted by the California Environmental Water Caucus. We also hereby incorporate by reference the joint comments of Friends of the River and the California Wilderness Coalition to the SLWRI Draft Feasibility Study and Preliminary DEIS, dated January 28, 2013. We also hereby incorporate by reference verbal comments made for Friends of the River by Steven Evans at the public hearings held in Redding and Sacramento on September 10 and 11, 2013.

1. Unavailability Of Hard Copies Of The DEIS Made Public Review Of This Massive And Complicated Document Difficult.

Friends of the River must protest the failure of the Bureau of Reclamation to provide hard copies of the SLWRI DEIS to the interested public. It is almost impossible to thoroughly review such a massive document online or via disc. Failing to provide printed copies of this document to those interested in conducting a thorough public review is a "penny wise, but pound foolish" approach to NEPA. We believe that a revised DEIS will be necessary and hereby request a hard copy of any future SLWRI documents.

2. The DEIS Fails To Admit The Connection Between The SLWRI And The Bay Delta Conservation Plan.

The SLWRI draft Feasibility Report clearly documents that every additional drop of water stored by a raised dam and expanded reservoir will be sold to federal water contractors. This not only refutes the Bureau's claim that the primary benefit of the dam raise is improved fisheries, it also underscores a direct connection to the SLWRI with the Bay-Delta Conservation Plan (BDCP). The current version of the BDCP proposes construction of two giant tunnels beneath the Delta to facilitate export of Sacramento River water south. The DEIS's and Feasibility Study's summary of benefits from the dam raise clearly show that 77% of the water stored behind a raised Shasta Dam will be sold to water contractors south of the Delta (the remainder will be sold to north of Delta contractors). The DEIS fails to document this important connection and is violation of the public disclosure mandate of the National Environmental Policy Act.

A revised DEIS must clearly document the connection between the SLWRI and BDCP and fully disclose the role this connection plays in the cost-benefits of the SLWRI.

3. Raising Shasta Dam Will Not Significantly Increase Anadromous Fish Survival As Claimed In The DEIS.

The DEIS predicts that the dam raise alternatives will increase juvenile anadromous fish survival by 61,000 to 813,000 fish annually. (DEIS Table S-2, pg. ES-26) This is a misleading way to present the alleged benefits of the proposed dam raise. Although increasing juvenile salmon survival by up to 813,000 fish sounds significant, the less than 1% return rate of juveniles as adults three years later means that this billion dollar or more project may produce fewer than 813 additional adult salmon in any one year, and in most years, considerably less than that number.

It is questionable as to whether the Bureau will operate the raised dam and expanded reservoir in a way that guarantees that the cold water pool will be available during the dry and critically dry years when water temperatures are a major factor in juvenile salmon survival. Sadly, there are no hard or firm standards that the Bureau is apparently required to follow. When the Bureau finds it inconvenient to meet temperature standards for juvenile salmon survival, it simply "coordinates" (a polite way of saying it pressures) state and federal regulatory agencies to agree to move the temperature control point on the Sacramento River to a spot more convenient for the Bureau's dam and reservoir operations. The Sacramento Basin Water Quality Control Plan unequivocally sets the salmon temperature control point at Red Bluff. Over the years, the Bureau has found it convenient to move this control point further upstream to Bend, Balls Ferry, and in 2013, even further upstream to a point near Anderson.

In its draft Fish and Wildlife Coordination Report (June 2013), the U.S. Fish and Wildlife Service (USFWS) found the dam raise/expanded reservoir benefits of the

dam raise to be “negligible”. According to the USFWS, in 90% of the years, the dam raise/expanded reservoir will provide no benefits for juvenile salmon. In addition, the USFWS found that most of the fish benefits identified in the SLWRI are from spawning gravel augmentation and side channel rearing habitat restoration – mitigation measures that are not dependent on the dam raise/reservoir expansion and that can be implemented regardless whether the dam is raised.

It is important to recognize that the existing dam and reservoir can be operated to maintain an abundant population of endangered winter-run Chinook salmon. The completion of Shasta Dam in 1945 should have doomed this fish to quick extinction since access to its primary spawning grounds on the McCloud and upper Sacramento Rivers were permanently blocked by the dam. But once the reservoir was filled, operations of the dam in its first two decades “provided in-river conditions that sustained the winter-run Chinook population. Abundance estimates for winter-run Chinook in the 1960s ranged from a high of 125,000 in 1962 to a low of 49,000 in 1965.” (National Marine Fisheries Service 1997 Proposed Winter-Run Recovery Plan, pg. II-12) Essentially, the winter-run became dependent on cold water releases from Shasta Dam for its survival. But since 1970 to the present, dam operations have consistently failed to provide cold water to the river in order to meet federal water contract commitments in the Sacramento-San Joaquin Delta.

The question is: If the existing dam and reservoir can be operated in a manner that can provide the needed cold water for improved juvenile salmon survival, why is this not an alternative under serious consideration in the SLWRI? The answer is found on DEIS page 2-49, where the Bureau states:

The adaptive management plan (for the proposed cold water pool created by the raised dam/enlarged reservoir) *may* include operational changes to the timing and magnitude of releases from Shasta Dam to benefit anadromous fish, *as long as there are no conflicts with operational guidelines or adverse impacts on water supply reliability.* (Emphasis ours)

This simple statement clearly demonstrates the Bureau’s lack of commitment to operate Shasta Dam and Reservoir to benefit endangered salmon regardless of whether the SLWRI is implemented or not. It reveals that the true purpose of the SLWRI is to increase the water supply for water contractors.

4. Key Recovery Actions In The 2009 Central Valley Salmon and Steelhead Recovery Plan Are Not Considered In the SLWRI DEIS.

The National Marine Fisheries Service’s (NMFS) 2009 Central Valley Salmon and Steelhead Recovery Plan proposed a number of actions to protect and restore all runs of salmon and steelhead in the Sacramento River and its tributaries. Just a few of these actions include regulating pollution discharges from agricultural and urban sources, setting back and maintaining riparian vegetation on flood control levees,

restoring 185 miles of continuous riparian habitat between Red Bluff and Sacramento, screening water diversions that have substantial fishery impacts, curtailing development in flood plains, negotiating additional instream flows or purchasing water rights, remediating acid mine pollution, and restoring the former footprint of Lake Red Bluff to riparian habitat.

The DEIS ignores most of these actions and only obliquely refers to others. For example, it is unclear that adaptive management flows mentioned in the DEIS are the same thing as this specific recovery action proposed by the NMFS:

Implement a river flow management plan that balances carryover storage needs with instream flow needs for winter-run Chinook salmon based on runoff and storage conditions, including flow fluctuation and ramping criteria (USFWS 2001).

A revised SLWRI DEIS should include sufficient detail and information to make it clear whether adaptive management flows proposed in the DEIS meet the intent of the recovery action proposed in the Recovery Plan.

The Recovery Plan also calls for the restoration of 185 miles of continuous riparian habitat along the Sacramento River between Red Bluff and Sacramento. It is important to note that the USFWS clearly believes that “the reduction in winter flows with the raising of Shasta Dam would result in adverse effects to riparian habitat along the Sacramento River...” (USFWS Coordination Report pg. 176) The SLWRI proposes as a specific restoration measure to restore riparian habitat in the upper and lower Sacramento Rivers (upstream and downstream of Red Bluff respectively) the development and implementation of a Riverine Ecosystem Mitigation and Adaptive Management Plan (REMAMP). The plan will supposedly avoid and compensate for the impact of altered flow regimes on the river’s riparian and wetland communities. But little information is provided in regard to the REMAMP, which apparently does not exist even in draft or outline form, nor does it seem to apply to the Delta (as recommended in the Recovery Plan). There is no assurance that the REMAMP will actually meet the riparian habitat restoration objective found in the Recovery Plan.

In addition, some impacts identified in the DEIS imply that conditions for fish populations targeted for recovery may worsen. For example, remediation efforts at Iron Mountain Mine now controls 95% of the mine pollution that formerly flowed into the river. But the USFWS in its coordination report notes that the SLWRI reservoir expansion may exacerbate acid mine pollution by inundating additional abandoned mines and mine tailings that could leach additional metals into the river. The DEIS notes that “In addition to runoff from the historic workings (i.e., adits and portals), a number of large mine tailing deposits are currently leaching various metals into tributaries of Shasta Lake.” (DEIS pg. 7-15) The Bureau apparently eliminated reducing acid mine and metal pollution as a recovery objective from the SLWRI “due to numerous implementation issues.” It proposes to prepare and implement a site-specific Remediation Plan for historic mine features subject to

inundation but its not clear if this will be completed in time to allow for the completion of the dam raise and filling of the enlarged reservoir, nor is it clear whether this mitigation meets the intent of the Recovery Plan.

The Recovery Plan recommends minimum instream flows and ramping rates to benefit salmon. The DEIS notes that the 1993 NMFS Biological Opinion (BO) set minimum flows in the river, but it is unclear whether these are the same minimum flows recommended in the Recovery Plan, nor does the BO address ramping rates. Interestingly, the primary fish recovery goal of SLWRI alternative CP4 is to provide a more "fish-friendly" environment with "reservoir storage dedicated to fish, *to either improve flows or water temperatures.*" (DEIS pg. 11-54, *emphasis ours*) This is hardly the firm recovery objective outlined in the Recovery Plan. Apparently, the Bureau believes it can either improve flows or temperatures but not both. The primary constraint is the reservation of much of the existing storage, as well as the additional water provided by the raise, to meet water contract commitments.

Another recovery action virtually ignored in the DEIS is the reduction of agricultural and urban pollution into the Sacramento River and Delta. Although there are a number of mitigation measures in the DEIS to reduce pollution from construction and other upland activities into Shasta Reservoir, there is little assessment of the need to reduce agricultural, municipal, and industrial pollution into the Sacramento River downstream of the Dam, in order to reduce adverse impacts on salmon. For example, one of the specific recovery actions outlined by NMFS in its original 1997 winter run recovery plan is to control contaminant input from the Colusa Basin Drain, which visibly degrades the water quality of the Sacramento River. The Drain is the largest source of agricultural pollution to the river and is a major source of pesticides, turbidity, sediments, nutrients, dissolved solids, trace metals, and warm water into the river. Exposure of juvenile salmon to this kind of pollution is suspected to be detrimental. And yet, there is no effort in the SLWRI to consider pollution remediation in the river downstream of Shasta Dam as yet another action that could be taken to improve juvenile salmon survival.

In addition, the Recovery Plan proposes to restore key populations to former habitat that has become inaccessible due to dams, including Shasta Dam. The DEIS pays short shrift to this proposal, which is particularly inexcusable given the alleged focus of the SLWRI.

If the Bureau is truly serious about improving salmon survival, a revised SLWRI should incorporate more of the Recovery Actions outlined in the NMFS Recovery Plan. In addition, the SLWRI should seriously consider an alternative that re- operates the existing dam/reservoir in order to fully meet downstream temperature needs and flow requirements (for salmon as well as riparian habitat). A revised DEIS must connect the key objectives and recovery actions in the 2009 Recovery Plan to the mitigation measures proposed in the SLWRI DEIS. Further, the revised DEIS should evaluate and determine the feasibility and role of the Bureau in

implementing all recovery actions, particularly in restoring populations upstream of Shasta Dam.

A revised SLWRI should include an alternative that focuses on the salmon improvement measures recommended in the USFWS Coordination Report, including restoration of spawning and rearing habitat, improving fish passage, increasing minimum flows, and screening water diversions. (USFWS Coordination Report pg. v), as well as other specific management measures initially considered in the SLWRI but removed from further analysis (as outlined in the USFWS Report pg. vi).

5. The Project's Impacts On Sensitive, Threatened, And Endangered Species Are Underestimated In The DEIS.

The DEIS admits that there will be significant and unavoidable impacts on a number of sensitive, threatened, and endangered wildlife species and their habitat, including the Shasta salamander, foothill yellow-legged frog, tailed frog, northwestern pond turtle, bald eagle, northern spotted owl, purple martin, willow flycatcher, Vaux's swift, yellow warbler, yellow-breasted chat, long-eared owl, northern goshawk, Cooper's hawk, great blue heron, osprey, red-tailed hawk, red-shouldered hawk, American robin, Anna's hummingbird, Pacific fisher, American marten, ringtails, eight special status bat species, and four special status mollusks.

The DEIS also admits to significant and unavoidable permanent loss of general wildlife habitat and critical deer winter and fawning range. According to the DEIS, impacts associated with the take and loss of the endangered California red-tailed frog are still to be determined. And also according to the DEIS, impacts on riparian associated special status wildlife species may be potentially significant but are supposedly reduced to less than significant by the development and implementation of the previously mentioned but amorphous Riverine Ecosystem Mitigation and Adaptive Management Plan.

Despite the fact these significant and unavoidable impacts on these many sensitive and special status wildlife species are documented in the DEIS, the document fails to adequately reveal the serious nature of these impacts, particularly on the seven rare but not federally listed species endemic (found nowhere else) to the Shasta Reservoir vicinity, including the Shasta salamander, two rare plant species, and three rare snails (mollusks).

Some species are particularly susceptible to inundation by the expanded reservoir. For example, tree snags in the Pit River Arm of Shasta Reservoir appear to support a stable population of 18 breeding pairs of purple martin, a migratory bird that is generally uncommon in California and is considered by the California Department of Fish and Wildlife to be a species of special concern. The Pacific Coast population of purple martin has substantially declined in the last 50 years. Raising Shasta Dam will completely submerge the martin's existing nesting habitat and it would take decades for new nesting snags to become available to replace the lost habitat.

A revised DEIS should better document significant and unavoidable impacts on endemic and other special status species and more fully consider alternatives that reduce the impacts to insignificant levels.

6. The DEIS Underestimates Impacts Of Modified Flows From A Raised Shasta Dam On The Sacramento River And The Proposed Mitigation Measure Is Too Vague And Incomplete.

The DEIS claims that potentially significant impacts on riparian associated aquatic and terrestrial special status wildlife due to modifications of the existing flow regime caused by the dam raise will be reduced to less than significant levels by the development and implementation of a Riverine Ecosystem Mitigation and Adaptive Management Plan (REMAMP). The DEIS also recognizes that the impacts of flow modification on riparian habitat and ecosystem processes is inconsistent with local and regional plans and goals promoting riparian habitat on the Sacramento River. The DEIS notes that these are potentially significant impacts reduced to less than significant levels by the proposed REMAMP.

The USFWS unequivocally states that reduced winter flows caused by the raising of Shasta Dam will result in adverse effects to riparian habitat along the Sacramento River. So these are real issues but unfortunately, the proposed mitigation (the REMAMP) does not yet exist, so there is no way for the public to understand just how the proposed mitigation will truly reduce these impacts to insignificance.

Flow modification impacts to the Sacramento River's riparian and aquatic ecosystems, and the many sensitive, threatened, and endangered fish and wildlife species that depend on these dynamic ecosystems, are generally given short shrift throughout the DEIS. These impacts were well documented in Sacramento River Ecological Flows Study Final Report (CALFED Ecosystem Restoration Program, March 2008). Just a few of the more pertinent facts from this report include:

- Dam-related alterations of river flow regimes have been identified as one of the three leading causes of declines in imperiled aquatic ecosystems.
- Available data support the hypothesis that the reduced frequency and duration of floodplain inundation in the post-dam era may have contributed to the decline of the winter-run Chinook population.
- The Shasta Dam raise will reduce the "stream power" of the Sac by 16% and reduce the amount of floodplain area reworked by high flows by 8%. Diversions from the river to fill the proposed Sites Offstream Storage Reservoir (another CALFED water storage project under study) will further reduce the river's stream power by up to 15%.
- Fremont cottonwood initiation success, Chinook and steelhead rearing WUA

(weighted useable area), and Chinook and steelhead redd scour risk are the indicators most sensitive to flows.

- The altered hydrograph of the Sac River appears to limit cottonwood seedling survival.
- Maintaining natural channel migration and cutoff processes is necessary for providing new patches for seedling recruitment and for periodical resetting of riparian vegetation succession, which are both critical for maintaining the diverse, dynamic, and functional riparian-floodplain ecosystem.
- Reductions in peak flow magnitude will likely reduce bank erosion and thus have potential impacts on spawning gravel availability, and might also affect lateral channel migration, which is essential for creating off-channel habitats important to many Sacramento River species.
- The flow impacts of the Shasta Raise and Sites combined are expected to reduce progressive channel migration by approximately 10%.
- As flows recede below 8,500 cfs, the inlets of secondary channels (which provide crucial habitat for juvenile salmon) become increasingly disconnected from the main stem.
- Removing rip-rap (bank revetment) may mitigate the floodplain impacts of the Shasta Raise (note: this is not a proposed mitigation in the DEIS).
- Revetment removal plus flow management that allows occasional high flows are both necessary and sufficient for habitat creation and persistence.
- The importance of fish passage improvements is strongly suggested by past studies; assessment of benefits only possible through implementation and monitoring.
- The CALSIM II model, which is used in the DEIS to assess the flow impacts of the dam raise, functions at a monthly time-step, which is a recognized shortcoming. Daily flow disaggregations below Red Bluff used in our study are known to be flawed and do not remain consistent with monthly time-step totals. (Note: Development and use of a true daily flow model is also a NMFS recommended recovery action).

These findings clearly underscore the potential severity of flow modification impacts on the Sacramento River ecosystems, the sensitivity of the river to multiple impacts caused by current projects under study (SLWRI and Sites), and the need for a well defined, detailed, and permanent plan that assures true mitigation of these impacts. A revised DEIS should fully assess flow modification impacts on the river, its ecosystems, and fish and wildlife species, and include at least a draft Riverine

Ecosystem Mitigation and Adaptive Management Plan for review and comment by the public. In addition, this plan should fulfill the role of the Sacramento River and Delta Riparian Habitat Restoration and Management Plan outlined in the NMFS Recovery Plan and noted as a needed mitigation measure in the USFWS Coordination Report. The Adaptive Management Plan should also fully comply with all local and regional plans to protect and restore riparian habitat along the river.

It is even more important that this Adaptive Management Plan be completed and available for public review in the revised DEIS because it will determine the future health of riparian and aquatic ecosystems on more than 31,000 acres of federal, state, and other public lands that support some of the most important riparian and aquatic habitat on the Sacramento River (including the BLM's Sacramento River Bend Outstanding Natural Area, the USFWS' Sacramento River National Wildlife Refuge, State Wildlife Areas managed by the California Department of Fish and Game, four State Parks and Recreation Areas, and several local parks and recreation areas).

It is unclear whether the adaptive management plan intended to benefit salmon is the same adaptive management plan intended to benefit the downstream riparian and aquatic ecosystems. The term "adaptive management plan" seems to be interchangeable throughout the DEIS. If they are the same plan, then we assume that the Bureau's qualification about the timing and magnitude of releases from Shasta Dam to benefit downstream ecosystems will be applied – *"as long as there are no conflicts with operational guidelines or adverse impacts on water supply reliability."* (DEIS pg. 2-49) If this is the case, it is clear that this proposed Adaptive Management Plan will not reduce the flow modification impacts on riparian and aquatic ecosystems to less than significant levels simply because water contracts will always trump well meaning but relatively toothless mitigation measures.

7. Impacts Of Reservoir Enlargement On Potential Wild & Scenic Rivers

Enlarging Shasta Reservoir by raising the dam from 6.5 to 18.5 feet will flood public lands managed by the Forest Service encompassing segments of the upper Sacramento, McCloud, and Pit Rivers, Salt Creek, and several small tributary streams. This flooding, however minor it may seem to the Bureau, triggers several requirements and mandates in the National Wild & Scenic Rivers Act. Although the DEIS attempts to address Wild & Scenic River issues in Chapter 25, it fails to recognize the actual requirements of the Act and the true implications of the reservoir enlargement in regard to previous Forest Service studies and commitments made in the 1994 Shasta-Trinity National Forests Plan. Nor does the DEIS adequately address the impacts of reservoir enlargement and the legal implications of violating the California Public Resources Code.

8. The National Wild & Scenic Rivers Act requires consideration by all federal agencies of federal Wild & Scenic River protection for the McCloud, upper

Sacramento, and Pit Rivers, and other reservoir tributaries as an alternative to the federal proposal to raise the dam and expand the reservoir.

Section 5(d)(1) of the National Wild & Scenic Rivers Act states:

In all planning for the use and development of water and related land resources, consideration shall be given by all Federal agencies involved to potential national wild, scenic, and recreational river areas, and all river basin and project plan reports submitted to the Congress shall consider and discuss any such potentials. The Secretary of the Interior and the Secretary of Agriculture shall make specific studies and investigations to determine which additional wild, scenic, and recreational river areas within the United States shall be evaluated in planning reports by all Federal agencies as potential alternative uses of the water and related land resources involved.

This section of federal law clearly requires the Bureau of Reclamation to go beyond the simple reporting of past state and federal considerations of Wild & Scenic protection for the river segments affected by the SLWRI. It specifically requires consideration of Wild & Scenic protection in the context of and as an alternative to the proposed dam raise and reservoir enlargement, not only for the McCloud, but also for the upper Sacramento and Pit Rivers, and all other streams on public lands tributary to Shasta Reservoir. No such comprehensive assessment of Wild & Scenic Rivers is provided in the DEIS.

The Bureau should work with the Forest Service to include in a revised DEIS a comprehensive assessment specifically addressing the impacts of the dam raise and reservoir enlargement on the free flowing character and outstanding values of all rivers and streams tributary to the reservoir and include a range of alternatives that proposes Wild & Scenic protection with and without various reservoir enlargement alternatives.

For example, the Forest Service in the 1994 Shasta-Trinity National Forests Draft Plan found the upper Sacramento River from Box Canyon Dam to the Whiskeytown-Shasta-Trinity National Recreation Area to be eligible for federal protection, but the agency did not recommend it because of land ownership patterns along the river. But the river was also not actively threatened by reservoir expansion at that time. The Wild & Scenic Rivers Act requires the Forest Service and the Bureau to revisit potential Wild & Scenic protection of the upper Sacramento River in the context of the project outlined in the revised DEIS, as well as for other rivers and streams that may be affected by reservoir expansion.

The Bureau of Reclamation has previously recognized the clear mandate of the National Wild & Scenic Rivers Act to consider and evaluate potential Wild & Scenic Rivers as potential alternative uses to water and related land resources in the planning for water development. As part of its planning and study of the Auburn

Dam project on the North and Middle Forks of the American River, the Bureau convened a multi-agency interdisciplinary team that determined segments of the river that would be flooded by the dam proposal to be eligible for Wild & Scenic protection in 1993 (letter dated March 17, 1993 from Susan E. Hoffman, Division of Planning and Technical Services Chief, U.S. Bureau of Reclamation Mid-Pacific Region). The study to determine if the eligible segments were suitable for designation was scheduled for Phase II and III of the American River Water Resources Investigation. This part of the study was never completed because soon after the eligibility finding, Congress rejected authorization of the Auburn Dam project.

9. The National Wild & Scenic Rivers Act requires consideration of federal Wild & Scenic River protection for the segments of the lower Sacramento River with significant federal lands downstream of Shasta Dam as an alternative to the federal proposal to raise the dam and expand the reservoir.

The lower Sacramento River between Anderson and Colusa has several segments with substantial federal public lands managed by the Bureau of Land Management (BLM) and the U.S. Fish and Wildlife service (USFWS). In its draft Fish and Wildlife Coordination Report, the USFWS stated "Riparian and floodplain habitat along the Sacramento River and in the Yolo and Sutter Bypasses would be adversely affected by further changes in the timing, duration, and frequency of flood flows due to an enlarged Shasta Dam." (USFWS Draft Coordination Report, pg. viii, June 2013) Even the SLWRI DEIS admits that flow modification from the dam raise may have potentially significant impacts on the river's riparian and aquatic ecosystems and fish and wildlife. These agency findings clearly trigger the section 5(d)(1) requirement that the federal segments of the lower river be studied and considered for potential federal protection as an alternative to the proposed water resources project.

The BLM manages nearly 18,000 acres of federal public lands as the Sacramento River Bend Outstanding Natural Area (SRBONA), which encompasses a 25-mile stretch of the Sacramento River between Balls Ferry and Red Bluff. The BLM found the federal portions of this segment to be eligible for National Wild & Scenic River protection in recognition of its free flowing character and outstandingly remarkable scenic quality, recreation opportunities, cultural/historic values, anadromous and resident trout fisheries, and vegetation. The outstandingly remarkable vegetation value was specifically defined as the river's Great Valley oak riparian forests. (BLM Redding Resource Management Plan and ROD, and BLM Redding RMP FEIS, June 1993 and July 1992 respectively)

In addition to the Wild & Scenic finding, BLM management direction designated the river as an Outstanding Natural Area and requires protection and enhancement of the river's riparian vegetation, wetlands, and anadromous fisheries. BLM management direction for the SRBONA also included the long-term survival of special status species, maintenance and improvement (if feasible) of scenic quality,

conserving archeological resources, and providing for semi-primitive recreation opportunities. In addition, general policy and program direction in the BLM Manual and the Redding RMP require the BLM to protect the free flowing character and specific outstandingly remarkable values of all eligible rivers.

Determining the suitability of the eligible Sacramento River segment was deferred by BLM due to budgetary and personnel constraints (BLM Redding RMP pg. 28, June 1993) The BLM Manual specifically states in regard to water resources projects that may affect eligible or suitable Wild & Scenic Rivers:

The BLM should, within its authority, consider protecting the river values that make the river eligible or suitable through the land use plan and activity-level NEPA analysis. If a river is listed in the Nationwide Rivers Inventory, the Federal agency involved with the proposed action must consult with the land-management agency in an attempt to avoid or mitigate adverse effects. (BLM Manual 6400-WILD AND SCENIC RIVERS—POLICY AND PROGRAM DIRECTION FOR THE IDENTIFICATION, EVALUATION, PLANNING, AND MANAGEMENT, Sec. 3.8(D), pg. 3-14 7/13/2012)

The SLWRI DEIS mentions BLM management responsibility for public lands along the Sacramento River in several sections. It also mentions the BLM's Wild & Scenic eligibility finding for the Sacramento River between Balls Ferry and Iron Canyon and notes that BLM management direction requires its public lands along the river to be "managed to protect the outstandingly remarkable values and free-flowing character..." However, the documentation of BLM's responsibilities ends there in the SLWRI. There is no connection made between the Sec. 5(d)(1) mandate to consider potential Wild & Scenic protection of the river as an alternative to the SLWRI nor is there any substantive discussion about how the dam raise could modify flows and adversely affect the river's outstandingly remarkable anadromous fisheries and riparian forests, which make the river eligible for Wild & Scenic protection.

The SLWRI DEIS fails to connect the Bureau's proposed alternatives with the BLM's mandate to protect the river's eligible segment. The SLWRI is also inconsistent with the BLM's current management direction for this part of the Sacramento River. As part of a revised DEIS, the Bureau must consult with the BLM and pursuant to Sec. 5(d)(1) of the Act the BLM must initiate a Wild & Scenic River suitability study for the segment of the Sacramento River identified as eligible by the BLM as an alternative to the SLWRI.

10. The DEIS fails to recognize that Sec. 5(d)(1) of the National Wild & Scenic Rivers Act also applies to federal public lands that comprise the Sacramento River National Wildlife Refuge.

The USFWS manages more than 10,300 acres of federal public lands along the Sacramento River between Red Bluff and Colusa as the Sacramento River National Wildlife Refuge. These lands were acquired by the USFWS and incorporated in the Refuge in order to protect and restore riparian and aquatic habitats and the many sensitive, threatened and endangered species that depend on these habitats. As far as we know, none of the Refuge lands along the river have been studied for their Wild & Scenic eligibility or suitability per sec. 5(D)(1) of the Act. Nor does the DEIS make any mention of potential Wild & Scenic eligibility and suitability of these segments.

A revised DEIS, the Bureau must consult with the USFWS and pursuant to Sec. 5(d)(1) of the Act, the USFWS must initiate a Wild & Scenic River suitability study for the Refuge segments of the Sacramento River as an alternative to the SLWRI.

11. The DEIS admits that all alternatives to raise the Shasta Dam and expand its reservoir will adversely affect the McCloud River's eligibility as a National Wild & Scenic River and will specifically harm the river's free flowing character, water quality, and outstandingly remarkable values.

In Chapter 25, the DEIS documents that raising Shasta Day by 6.5-18.5 feet will flood from 1,470 feet to 3,550 feet of the segment of the McCloud River eligible for National Wild & Scenic River protection. The DEIS also admits that this flooding will adversely affect the McCloud's free flowing character, water quality, and outstandingly remarkable Native American cultural, wild trout fishery, and scenic values.

Conservationists believe that even more of the eligible segment of the McCloud River will be harmed by the dam raise alternatives because the Bureau incorrectly identifies elevation 1,070 feet as the terminus of the McCloud segment identified by the Forest Service. In fact, the terminus of the eligible McCloud segment is simply defined by the Forest Service as "Shasta Lake". (LRMP FEIS, Appendix pgs. E-4, E-13) The Forest Service's map depicting the eligible segment of the McCloud shows that eligible segment ends at the McCloud River Bridge (FEIS Appendix E pg. 3-36). There is no mention of elevation 1,070 as the terminus of the eligible segment and there is no reference in the LRMP to the McCloud's so called "transition reach". Hence, the impact of the dam raise and reservoir expansion is greater than what is documented in the DEIS.

12. Flooding the McCloud River violates the 1995 Shasta-Trinity National Forests Land and Resource Management Plan and Record of Decision in regard to protecting the McCloud River's eligibility as a potential National Wild & Scenic River.

The Forest Service recommended Wild & Scenic River protection for the McCloud River in its 1990 draft of the Shasta-Trinity National Forests Land and Resource Management Plan (LRMP). In response to concerns expressed by river-side

landowners, the Forest Service chose to pursue protection of the McCloud River's free flowing character and outstandingly remarkable values through a Coordinated Resource Management Plan (CRMP) developed by the Forest Service and other federal and state agencies and the riverside landowners. This decision is reflected in the 1995 final Shasta-Trinity National Forests LRMP and Record of Decision (ROD), which state:

A Coordinated Resource Management Plan (CRMP) has been adopted for long term management of the Lower and Upper McCloud River and Squaw Valley Creek. This agreement is between private land owners, the Forest Service, Pacific Gas & Electric, Nature Conservancy, CalTrout, and the DFG. This plan will effectively maintain the outstandingly remarkable values of this potential wild and scenic river. If for any reason the terms of the CRMP are not followed and the wild and scenic river eligibility is threatened, the Forest Service will recommend these segments for Federal Wild and Scenic designation. (1995 Final LRMP, page 3-23)

If, after a period of good faith effort at implementation, the CRMP fails to protect the values which render the river suitable for designation then the Forest Service will consider recommendation to the national Wild and Scenic River System. (1995 ROD page 17)

The DEIS admits that raising the dam will periodically flood 1,470 feet of the eligible segment of the McCloud River, which would make the flooded segment ineligible for federal Wild & Scenic protection. (DEIS pg. 25-26) Conservation groups believe that more of the eligible river would be flooded (see discussion below about the actual terminus of the eligible McCloud). Regardless, it is clear that the Bureau's proposal to raise Shasta Dam and expand its reservoir directly violates the intent and constitutes failure of the CRMP, and it also violates the protective management proposed in the LRMP. Therefore, the Forest Service is bound by its own ROD to consider and recommend federal protection for the river. This requirement is not reflected in the DEIS and it should be included in the revised DEIS.

The Bureau is misleading the public when it claims that raising the dam and expanding the reservoir will not conflict with the Shasta-Trinity National Forests LRMP because the portion of the McCloud that would be flooded is private land and not National Forest land. The Forest Service has the authority to study and recommend the river within its reservation boundary, as it did so in the 1990 draft LRMP. It has the authority to determine that reservoir expansion and flooding of the eligible segment of the McCloud reflect a de-facto failure of the CRMP and therefore triggers Forest Service reconsideration of its Wild & Scenic River recommendation for the McCloud. This important protection is a fundamental component of the LRMP, which means that the Bureau's proposal violates the LRMP.

13. All dam raise/reservoir enlargement alternatives violate the California Public Resources Code 5093.542 prohibiting the construction of a reservoir that would harm the McCloud's free flowing condition and extraordinary wild trout fishery upstream of the McCloud River Bridge.

In 1989, the California Legislature passed and the Governor signed legislation declaring that the McCloud River possesses extraordinary resources, including one of the finest wild trout fisheries in the state, and that continued management of river resources in their existing natural condition represents the best way to protect the unique fishery of the McCloud, and that maintaining the McCloud in its free-flowing condition to protect its fishery is the highest and most beneficial use of the waters of the river.

The legislation specifically prohibited any dam, reservoir, diversion, or other water impoundment on the McCloud River upstream of the McCloud River Bridge. It also prohibited any state agency cooperation, participation, or support for any dam, reservoir, diversion, or other water impoundment facility that could have an adverse effect on the free flowing condition of the McCloud River or on its wild trout fishery. These prohibitions and conditions are now memorialized in the California Public Resources Code (PRC) 5093.542.

The DEIS admits that all dam raise alternatives will have a significant unmitigated impact on the McCloud's free flowing condition and will have a potentially significant impact on the river's wild trout fishery (DEIS pg. 25-40). The DEIS suggests that the wild trout fishery impacts could be mitigated to less than significant levels but these mitigations have yet to be identified. Regardless, all the dam alternatives in the DEIS clearly violate state law. To ensure compliance with PRC 5093.542, the California Legislature and the Governor passed and signed statewide water bond legislation prohibiting use of the bond funds to raise Shasta Dam.

Clearly, the SLWRI's proposal to raise Shasta Dam and expand its reservoir violates state law. So why is the Bureau continuing to study this illegal project? Does the Bureau intend to cite federal preemption over state law in regard to this matter? If so, the DEIS should admit this.

14. The DEIS fails to mention that the Sacramento River between Anderson and Colusa is in the Nationwide Rivers Inventory and is protected by Presidential Directive.

A segment of the Sacramento River from the I-5 bridge crossing in Anderson to Arnold Bend upstream of Colusa was included in the National Park Service's 1982 Nationwide Rivers Inventory (NRI). The NRI was created by a directive from President Carter. The directive requires each federal agency, as part of its normal planning and environmental review process, to take care to avoid or mitigate adverse effects on rivers identified in the NRI. Further, all agencies are required to

consult with the National Park Service prior to taking actions which could effectively foreclose wild, scenic or recreational status for rivers on the inventory.

The NRI describes this segment of the Sacramento River as a swift moving river isolated from surrounding civilization by a narrow band of dense riparian vegetation that meanders over a wide area with numerous islands and oxbow lakes. It also notes that the river flows through scenic Iron Canyon with a stretch of rapids, supports important anadromous fish populations and the state's most important salmon spawning grounds, includes outstanding riparian habitat for the yellow-billed cuckoo and giant garter snake, provides excellent rafting and boating opportunities, receives intense recreational use with fishing as the most popular activity, and is an important popular recreation resource for nearby urban areas.

There is no mention in the SLWRI of the NRI segment of the Sacramento River, the mandate to avoid or mitigate adverse effects on the NRI segment and its specific outstanding values, or the requirement to consult with the National Park Service. A revised DEIS should substantively address these issues.

15. The DEIS fails to adequately identify potential project effects on protected National Forest roadless areas and the Whiskeytown-Shasta-Trinity National Recreation Area.

A portion of the boundaries of the Backbone and Devil's Rock roadless areas on the Shasta-Trinity National Forests parallel the existing reservoir's high water line. The action alternatives could flood a portion of the roadless areas, which are protected under the Roadless Area Conservation Rule. While the DEIS admits to significant unavoidable impacts on National Forest lands and resources, as well as non-compliance with existing Forest Service management, it fails to describe the adverse impacts on federally protected roadless areas. The revised DEIS should include consideration of these impacts.

The DEIS fails to adequately consider the impacts of the dam raise alternatives on the Whiskeytown-Shasta-Trinity National Recreation Area (WSTNRA). The WSTNRA was established by Congress and President Kennedy in 1963 to:

...provide, in a manner coordinated with the other purposes of the Central Valley project, for the public outdoor recreation use and enjoyment of the Whiskeytown, Shasta, Clair Engle, and Lewiston reservoirs and surrounding lands in the State of California by present and future generations and the conservation of scenic, scientific, historic, and other values contributing to public enjoyment of such lands and waters... (16 USC Sec. 460q)

The DEIS documents the impact on recreation facilities, but fails to adequately identify the impacts on scenic, scientific, historic and other public land values the WSTNRA was established to conserve. Further, it is not clear that the impacts on

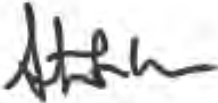
recreation and recreation infrastructure will be fully mitigated. Although owners of private resorts and other recreation facilities will be reimbursed for the fair market values of their property, they will not be reimbursed for the loss of income nor is there any guarantee that these owners will be able to replace their facilities to provide comparable services in the future.

In addition, the DEIS fails to assess the impacts of moving existing facilities elsewhere on undeveloped National Forest lands. A revised DEIS must fully assess the impacts of the proposed dam raise on the all the purposes of the WSTNRA, as well as the actual impacts on private recreation facilities, and the impacts of proposed relocation of public and private facilities.

16. Summary

In summary, there are numerous deficiencies in the SLWRI DEIS. Friends of the River and the California Wilderness Coalition believe that a revised DEIS is required to correct these deficiencies and to allow for full disclosure to the public.

Sincerely,



Steven L. Evans
Wild & Scenic River Consultant
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California Wilderness Coalition
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SLWRI, BOR MPR <sha-mpri-slwri@usbr.gov>

A friendly feline reminder that Public Comments are due on the raising of Shasta Dam Sep 30, 2013

1 message

Rose Flame <mysecretfires@gmail.com> Mon, Sep 23, 2013 at 1:18 PM

To: info@packersbay.com, admin@silverthornresort.com, info@philspop.com,
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Cc: BOR-MPR-SLWRI@usbr.gov, Katrina Chow <kchow@usbr.gov>,
"Wsloan@mofo.com" <wsloan@mofo.com>, Pete Lucero <plucero@usbr.gov>

Hello Everyone,

Citizens For Clean Air has formally submitted public comments on the proposal to raising Shasta Dam. As you may have guessed, we came out on the side of our friends and neighbors. Thanks to everyone who made the July 16th and September 10th Bureau of Reclamation meetings a success.

What an an amazing turnout!

We are asking for even more help from our community. Especially ... we need

experts to ask detailed environmental questions on the cumulative impacts of the project.

Written comments on the Draft EIS may be provided before midnight

Monday, September 30, and should be mailed to

Katrina Chow, Project Manager, Reclamation, Planning Division, 2800 Cottage Way, Sacramento, CA 95825-1893, 916-978-506 or

email BOR-MPR-SLWRI@usbr.gov

Personally... I recommend email. It leaves a permanent record. Go ask Enron.

Best Regards,

Celeste Draisner

Citizens For Clean Air

530-223-0197

P.O. Box 1544

Shasta Lake, CA 96019

P.S.

Here is a link showing why emails are really the way to go:

[http://yosemite.epa.gov/oa/eab_web_docket.nsf/Filings%20By%20Appeal%20Number/2303451E3FD9594B85257B5500684B63/\\$File/EAB%20Celeste%20Omer%20email...30.pdf](http://yosemite.epa.gov/oa/eab_web_docket.nsf/Filings%20By%20Appeal%20Number/2303451E3FD9594B85257B5500684B63/$File/EAB%20Celeste%20Omer%20email...30.pdf)



Bureau of Rec. Sept. 2013 comments .odt

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Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

September 22nd, 2013

Page 1

Katrina Chow, Project Manager
Bureau of Reclamation, Planning Division
2800 Cottage Way
Sacramento, CA 95825-1893
email: kchow@usbr.gov

Citizens For Clean Air's Public Comments: Shasta Lake Water Resource Investigation,
Draft EIS (Shasta Dam Raising Project)

Our community is overwhelmingly opposed to this project.

Citizens For Clean Air formally requests that the public comment period be extended until
January 15, 2014.

Shasta County, a federally recognized Environmental Justice (EJ) community is being
asked to review an approximately 6000 page document. It is unreasonable to expect
average citizens, to meaningful participate as stakeholders in the review process under the
Bureau's current time line.

The available evidence demonstrates this project is an attempted water grab by the
Westlands and Metropolitan Water Districts. These two water districts are rich and
powerful south state water companies, posing as public agencies.

The raising of Shasta Dam is being advocated as a benefit for North State farmers and
endangered fish species. Yet nowhere in the massive 6000 page Draft EIS has the Bureau
demonstrated any valid scientific evidence to prove such claims.

The raising of Shasta Dam will flood sacred native sites, destroy existing resorts and
marinas, dislocate the town of Lakehead and impact our local economy in a negative
manner.

If the Westlands and Metropolitan Water Districts want to raise the dam for their personal
profits, they (and not the public) should pay for it. By allowing the use of eminent domain
for private gain, the Bureau of Reclamation is complicit in activities that are legally
indefensible.

Many Winnemem Wintu were left homeless when the government forcibly removed them
from their ancestral lands, flooding their villages and sacred sites.

All these years later, the Winnemem Wintu have yet to receive the "like lands" that were
promised in the 1941 Indian Lands Acquisition Act, which authorized the stealing and
subsequent destruction of their homeland.

"Like lands" for a tribe who lived along the McCloud River for over six thousand years,
would be along the McCloud River. This land along the McCloud would still be considered
their ancestral land.

The 3,000 acre Bollibokka Fishing Club on the McCloud River was sold to Westlands Water District for nearly \$35 million. Why does the nation's largest water district, located in Southern California (Fresno) want this land?

"We did not want to see the use of this land to be changed to impede the potential of raising the dam." Tom Birmingham, general manager, Westlands. ~Record Searchlight 2/19/2007

It is the very property that would protect the Winnemem Wintu's remaining sacred sites. This is the land that Westlands has recently purchased in their efforts to "de-list" the McCloud River and thereby remove a major impediment to the Shasta Dam raising project.

The Bureau of Reclamation knew the Winnemem were entitled to "like land" for their land the federal government removed them from in the late 1930's. Why didn't the Bureau stop the sale of the Bollibokka fishing club to Westlands?

Your agency's duty to honor your legal commitment to the Winnemem is much older and more important than appeasing special interests in Southern California.

In 1851, the Winnemem (represented by the signature of Numterareman), along with other Wintu bands signed the [congressional] Treaty at Cottonwood Creek which ceded to the United States a vast territory.

In 1914, the U.S. government took steps to purchase land from the Winnemem Wintu.

Congress recognized the Winnemem Wintu in the 1941 Indian Lands Acquisition Act.

For decades the Winnemem received scholarships, health care and permits to gather eagle feathers from the federal government. They had federal tribal recognition.

In the 1980's, the Bureau of Indian Affairs reorganized their Agency and established a Federal Recognition List. The Winnemem Wintu were wrongfully (and secretly) left off of that list. The Bureau of Indian Affairs has not corrected it's own error to this day. The tribe's medical care, scholarships and permits were canceled without notification.

However, the most grievous harm by the Bureau of Indian Affairs is the tribe's loss of sovereign status. Without the Winnemem's rightful status, their fight to save ancestral and sacred sites from permanent destruction is severely compromised.

Until the Winnemem receive 'like lands' for the land Congress acknowledges they took and Congress declared they would compensate the Winnemem for, this project is without moral or legal grounds to proceed. The original deal has never been completed.

Is this the reason for the Bureau of Reclamation's formal "no response" to the theft of the Winnemem Wintu's lands?

The Westlands Water District and the Metropolitan Water District are behind legislation to de-list the McCloud River from current protection under the California Wild & Scenic Rivers Act.

It is the policy of the State of California that certain rivers which possess extraordinary scenic, recreational, fishery, or wildlife values shall be preserved in their free-flowing state, together with their immediate environments, for the benefit and enjoyment of the people of this state. The Legislature declares that such use of these rivers is the highest and most beneficial use and is a reasonable and beneficial use of water within the meaning of Section 2 of Article X of the California Constitution. - The California Wild & Scenic Rivers Act (Public Resources Code Sec. 5093.50 et seq.)

The upper McCloud River offers spectacular waterfalls, great fishing, and shady camping and picnicking spots under towering pine trees. With easy access from Highway 89, the upper McCloud offers a wide variety of outdoor recreation opportunities. The Forest Service acquired 13 miles of this river in 1989 through a land exchange with the Champion timber company. The 2,600 acre river corridor had long been a Forest Service priority for acquisition because of its exceptional recreational and scenic qualities. This segment of the river is considered eligible by the Forest Service for National Wild & Scenic River status due to its free flowing character and outstanding scenic, geological, and fishery values.

According to Friends of the River, the upper McCloud is perhaps best known for its three spectacular waterfalls. They provide an exhilarating sight for hikers and anglers. A short trail extends upstream and downstream from Fowler Campground and provides easy access to the waterfalls. This segment of the river is also popular with anglers, although upstream of the falls, the river provides habitat for the rare McCloud redband trout in two small tributaries closed to fishing.

Included is the following excerpt from a February 2, 2013 Record Searchlight article:

"McCloud River takes central role in the dam-raising proposal" ~By Damon Arthur Saturday,

The Westlands Water District and Metropolitan Water District, two rich and powerful south state water agencies interested in raising the height of Shasta Dam have the McCloud River in its sights.

The law governing the river's status forbids any state agency from planning for or building anything that would affect the river. The law also specifically says the state can't spend money on proposals to raise Shasta Dam.

A U.S. Bureau of Reclamation draft report released last year said it would be economically feasible to raise the dam, but two issues were unresolved: the McCloud's wild and scenic status and the numerous Winnemem Wintu sacred sites along the river."

The land acquired by Westlands would be sold to the federal government and inundated if officials and lawmakers decided to raise the dam. Will Westlands set the price the federal government, i.e. the people pay for this land? Where are the Environmental Assessments for flooding 3,000 acres of pristine land?

We urge you to visit this amazing wilderness yourself and after it wins your heart, apply for National Wild and Scenic Status protection.

Shasta County was recognized by the federal Environmental Appeals Board, *In Re Knauf Fiber Glass*, as an Environmental Justice community, requiring EJ guidelines to be addressed.

We want to point out that in a Bureau of Reclamation press release dated December 7th, 2012, the Bureau claimed "Reclamation initially released the Draft Feasibility Report in February 2012..." Yet, the first time the Winnemem and Citizens for Clean Air realized the report had been 'released for public comment' was when citizens happened upon your press release on December 9th.

This does not qualify as "Early and sustained involvement with the effected community."

After public outcry, the comment period was extended until January 28. We were never notified of this time extension. Citizens discovered the extension while scrolling through press releases on the Bureau's website.

We attended the September 10, 2013 Bureau meeting held in Redding, CA regarding the SLWRI project. Several times the Bureau's staff mentioned (with humorous groans) that the new Environmental Impact Report was over 1,000 pages. Some people have estimates it to be around 6,000 pages. It is not conveniently numbered. On-line, it is divided into many sections which makes it very time consuming and confusing.

In legal circles, if you want to overwhelm and bog down your opponents, you "blizzard" them with thousands of pages of mostly unnecessary information they have to pick through to find what they need.

"However, for perspective, it relies on the reader being familiar with the massive, 10 year-old EISs for the implementation of the Central Valley Project Improvement Act and the CalFed program. Both documents were about two feet thick; organized for those looking for specific subjects, not overall perspective; and probably hard to find by now. It would be most useful for the revised DEIS, to include an account of the major water problems facing California, each of which is potentially budget-busting in a slow economy. Otherwise EISs for enormous, but still small, billion-dollar parts of the overall picture come across as examples of piece mealism..."

~Sept. 13, 2013 Letter to the Editor, Buford Holt, U.S. Bureau of Rec. (retired.)

1,000's of pages of documents (in an unfriendly format) is a highly unreasonable burden to place on an Environmental Justice community. This is a low income community, with lower than average education rates.

Are citizens supposed to read thousands of pages, analyze the information and compose a comprehensive response in three months? In their spare time?!

Citizens For Clean Air has had volunteers skim through the plethora of sections. We did not

Shasta Lake Water Resources Investigation Duplicate DEIS Public Comments Appendix

find answers regarding the direct and cumulative impacts to this community. These impacts are not being seriously considered.

For example, the Bureau did not appear to think it was appropriate to include new inundation levels for the proposed raising of Shasta Dam. If the dam breaks, I guess we are just out of luck?

The Bureau still claims they do not need to consider the 3M quarry's impact as part of the dam raising project. Isn't a potential "take" site identified in the preliminary EIS the proposed 3M Quarry?

Wouldn't the quarrying of Turtle Bay be considered a related impact on the environment if an EIS was done on the original Shasta Dam project?

Eric Cassano finally received the map he has been requesting for our group, Citizens For Clean Air, on September 15, 2013.

This newly released map is critical for our community's public comments.

Our greatest concern, besides the Winnemem's sacred sites, is the devastation that will come to the residents of Shasta Lake and Shasta County from the proposed 3M Moody Flats Quarry.

The importance of the "Shasta Dam Enlargement Sand and Aggregate Sources" report can not be underestimated. It is only weeks before all public comments are due.

In response to repeated Freedom of Information Act (FOIA) requests, the Bureau claims they have had no communication with the proposed 3M Quarry.

However, it is our understanding that in February of 2012, during a conference call, including Katrina Chow, and community activist Eric Cassano, Ms. Chow informed Mr. Cassano that the Bureau had a geologist who was the contact liaison for the proposed 3M quarry.

At the Bureau's previous July SLWRI workshop in Redding, Bureau representatives told Eric Cassano that the Bureau plans to acquire all the aggregate for the project on site. If that is accurate, then the specific site needs to be identified and the impacts considered in the Draft EIS.

If the Bureau intends to purchase the aggregate from the 3M Quarry, then the Bureau needs to state that now to produce a legally defensible document.

If the 3M Quarry is going to supply aggregate for the project, the City of Shasta Lake is the rightful lead agency. All the impacts of the 3M Quarry must be considered in the Bureau's Draft EIS.

If the Bureau is planning to build a Construction Depot within the City of Shasta Lake borders, then the City of Shasta Lake is the correct lead agency, not Shasta County. Also, the full impact of the Construction Depot must be included in this Draft EIS.

Page 6

"Pacific Constructors, the main company building Shasta Dam, set up its own camp near the base of the Shasta Dam site, called "Contractor's Camp"

or "Shasta Dam Village". The company built an enormous 2,000-man mess hall, hospital, recreational center and other venues at the dam site. Three other makeshift camps nearby, called "Central Valley", "Project City", and "Summit City", soon filled with men from all over the state hoping to get jobs at the Shasta Dam as drillers, crane operators, mechanics, truck drivers, carpenters, welders, among others." ~ wikipedia.org/wiki/Shasta_Dam

The 3M Quarry project includes several acres inside the limits of the City of Shasta Lake.

A road within city limits was identified by the facilitator of the 3M Scoping Meeting as being used by the proposed 3M project to bring in fuel and explosives as part of their planned operation. This is not addressed in the Bureau's Draft EIS.

If the Bureau intends to ever use aggregate or cement from the 3M Quarry, they must include the quarry and all its impacts as part of the Bureau's Draft EIS. The Bureau must also go through the Draft EIS certification process with the correct local lead agency - the City of Shasta Lake.

In the Bureau's latest Draft EIS, the document skims over compensation for the residents/businesses if their property is flooded. Bureau representatives left critical questions unanswered. How much would these residents be given for their properties? Which homes will be flooded? Which business will be flooded? How much will they be paid for their businesses? How are the business owners and employees being compensated for years of lost income?

The Westlands Water District, already the largest agricultural user of Northern California water, has purchased 3,000 acres along the McCloud River to "make it easier to one day raise Shasta Dam."

Westlands is also aggressively pushing legislation to remove the existing state law that protects the McCloud River from development or flooding. WWD is privately owned by 'farmers' that don't grow anything. They buy the water at a cheap 'agricultural' rate and resell the water further south at a profit.

Records obtained under the Public Records Act, revealed a "Secret Society" organized in 2009 to influence water rates (and other decisions) at California's largest public water district - The Metropolitan Water District. MWD has an annual budget of \$1.8 billion and serves a six-county region with an annual economy valued at greater than \$1 trillion.

The Delta Watershed acts as a natural limit to how much water can be diverted south. Each year, California pumps about 4.9 million acre feet of freshwater out of the Delta. The proposed Peripheral Tunnels, two giant water tunnels, would have the capacity to carry up to 11 million acre-feet annually. The proponents of the project say they would "never use the tunnels at full capacity."

Why then build them so large? Why not build *one* tunnel?

Page 7

It is indisputable that the additional 6 million acre-feet of water yearly would come from the Sacramento River and other North State Rivers. Therefore, the full impact of the

Peripheral Tunnels must be part of a valid and legally defensible EIS.

According to the Sacramento Bee, Sacramento Mayor Kevin Johnson and City Manager John Shirey have expressed opposition to Governor Jerry Brown's proposal to build these giant tunnels. Johnson expressed concerns over the impact to the region's water supply and habitat. "For us, we want to be good stewards," the mayor said. "I'm going to speak out any chance I get." Shirey said the plan is moving "without any collaboration with the city of Sacramento."

This master plan to ship the North State's water south hinges on the Peripheral Tunnels. If the tunnels are not built, not enough water can get through to make the project viable.

No tunnels means no raising of Shasta Dam. The remaining Winnemem Wintu's sacred sites would not be flooded, businesses and homes in Lakehead would not be destroyed. The resorts on the Lake would not be ruined. The beautiful McCloud River would still be enjoyed by everyone. The City of Shasta Lake would not be devastated by an enormous quarry.

The full impacts of constructing the water tunnels under the Delta as a direct impact of the Shasta Dam raising project must be included.

Sincerely,

Celeste Draisner
Heidi Strand
Citizens for Clean Air
P.O. Box 1544,
Shasta lake City, Ca 96019
(530) 223-0197

D-FOTDW1 Duplicate of O-FOTDW1



CHOW, KATRINA <kchow@usbr.gov>

A friendly feline reminder that Public Comments are due on the raising of Shasta Dam Sep 30, 2013

1 message

Rose Flame <mysecretfires@gmail.com>

Mon, Sep 23, 2013 at 1:18 PM

To: info@packersbay.com, admin@silverthomresort.com, info@philprop.com, Donna Smith <managersaltcreekresort@gmail.com>, antlersnpark@campingshastalake.com, info@bassholebarandgrill.com, Lesa@lakeshastalake.com, office@fawndaleoaks.com, info@shastatackle.com, joyce@shastarv.com, houseboats dotcom <admin@houseboats.com>, info@shastacamping.com, info@mt-gatervpark.com, tsasdi2@snowcrest.net, robert@shastalakehb.com, "hswriter@frontiernet.net" <hswriter@frontiernet.net>, "fantompenguin@fantompenguin.com" <FantomPenguin@fantompenguin.com>, "Frank J. Strazzarino, Jr." <info@reddingchamber.com>, news@khsitv.com, news <news@krcrtv.com>, S Young <mahalo3366@yahoo.com>, Charles Alexander <sushibar007@hotmail.com>, Seabrook Leaf <seabrook@frogwood.org>, John Laird <secretary@resources.ca.gov>, Damon Arthur <darthur@redding.com>, organizations@moveon.org, "gomauro ." <mauro@signaloffve.org>, Marily Woodhouse <trees@thebattlecreekalliance.org>, Tom Stokely <tstokely@att.net>, Mark Lathrop <MLathrop@spi-ind.com>, Gracious A Palmer <graciouspalmer2009@yahoo.com>, Peter Griggs <pgriggs@shastacollege.edu>, Gypsy Perry <gypsyper03@gmail.com>, Carla Thompson <cthompson@cityofshastalake.org>, Carole Ferguson <cferguson@redding.com>, Jeff <jkiser@ci.anderson.ca.us>, Gary Cadd <white.bear@sbcglobal.net>
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Personally... I recommend email. It leaves a permanent record. Go ask Enron.

Best Regards,

Celeste Draisner

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Katrina Chow
Project Manager, SLWRI
U. S Bureau of Reclamation, Planning Division
2800 Cottage Way
Sacramento, CA 95825

Reclamation issued a Draft Environmental Impact Statement (DEIS) for the Shasta Lake Water Resource Investigation on June 28, 2013 and requested written comments by September 30, 2013. The Northern California Power Agency (NCPA) offers the following comments on the power portions of the DEIS.

The hydropower section on page 8 of the Executive Summary states that over the next 10 years California's peak demand is expected to increase 30 percent, from about 50,000 megawatts to about 65,000 megawatts. The 50,000 megawatt peak demand is correct for the part of California operated by the California Independent System Operator but does not include the other control area demand in California, such as Imperial Irrigation District, Los Angeles Department of Water and Power, and the Balancing Authority of Northern California. In total, California's current peak demand exceeds 60,000 megawatts. In addition, the California Energy Commission projects California's peak demand will increase by approximately 1.3 percent per year. The language in the hydropower section on page 16 of chapter 1 should also be changed to reflect these corrections.

This generation data for potential benefits that is shown in Table 4-4 of the Plan Formulation Appendix conflicts with the potential generation benefits shown for the five comprehensive plans (CP) starting on page 2-38 in Chapter 2 and in the Plan Formulation Appendix. It appears data contained in Tables 23-3 through 23-7 of Chapter 23, Power and Energy, was used to develop the generation impact for the five CP's by adding the generation data in Impact Hydro – 2 - Decrease in CVP System Energy Generation with the data in Impact Hydro – 3 – Decrease in SWP System Energy Generation. That computation, however, overstates the additional generation developed by the CP alternatives. The data contained in Impact Hydro – 6 – Decrease in Pit 7 Powerplant Energy Generation needs to be subtracted from the additional generation derived from Hydro 2 and 3 to obtain the true generation impact for each CP. In addition, the report needs to clearly state how the generation data for each CP is developed.

The Impact Hydro – 1- Decrease in Shasta Powerplant Energy Generation category should be eliminated in all the tables in Chapter 23 since Shasta generation is included in Impact Hydro 2. Including the same Shasta energy generation in both categories is duplicative and leads to confusion regarding the total generation increase for each CP. Impact Hydro 4 and 5 should be extracted from the current tables and placed in separate tables so generation impacts are shown in one table and pumping impacts in another.

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Chapter 23, Section 23.1 should be corrected to state that power is marketed by the Western Area Power Administration, not the Western Power Authority. Chapter 23, Section 23.2, omits an important proposed regulation by the State Water Resources Control Board (SWRCB) that could have a significant effect on each CP. The SWRCB has proposed implementation of unimpaired flow criteria for both the San Joaquin and Sacramento rivers. If that flow criteria is placed into effect, the calculated benefits for each CP will be greatly altered. In addition, Reclamation has recently made water releases for fishery that reduces reservoir storage (i.e. Trinity River), or bypasses generation (i.e. Folsom Dam) to meet other regulatory requirements. The affect of implementing these potential regulation requirements on Shasta Lake needs to be addressed in the DEIS.

Thank you for your consideration of these comments.

Jerry Toenyas
Consultant, NCPA

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SLWRI, BOR MPR <sha-mpri-slwri@usbr.gov>

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 **Bureau of Rec. Sept. 2013 comments .odt**
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September 22nd, 2013

Page 1

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Bureau of Reclamation, Planning Division
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Sacramento, CA 95825-1893
email: kchow@usbr.gov

Citizens For Clean Air's Public Comments: Shasta Lake Water Resource Investigation,
Draft EIS (Shasta Dam Raising Project)

Our community is overwhelmingly opposed to this project.

Citizens For Clean Air formally requests that the public comment period be extended until
January 15, 2014.

Shasta County, a federally recognized Environmental Justice (EJ) community is being
asked to review an approximately 6000 page document. It is unreasonable to expect
average citizens, to meaningfully participate as stakeholders in the review process under the
Bureau's current time line.

The available evidence demonstrates this project is an attempted water grab by the
Westlands and Metropolitan Water Districts. These two water districts are rich and
powerful south state water companies, posing as public agencies.

The raising of Shasta Dam is being advocated as a benefit for North State farmers and
endangered fish species. Yet nowhere in the massive 6000 page Draft EIS has the Bureau
demonstrated any valid scientific evidence to prove such claims.

The raising of Shasta Dam will flood sacred native sites, destroy existing resorts and
marinas, dislocate the town of Lakehead and impact our local economy in a negative
manner.

If the Westlands and Metropolitan Water Districts want to raise the dam for their personal
profits, they (and not the public) should pay for it. By allowing the use of eminent domain
for private gain, the Bureau of Reclamation is complicit in activities that are legally
indefensible.

Many Winnemem Wintu were left homeless when the government forcibly removed them
from their ancestral lands, flooding their villages and sacred sites.

All these years later, the Winnemem Wintu have yet to receive the "like lands" that were
promised in the 1941 Indian Lands Acquisition Act, which authorized the stealing and
subsequent destruction of their homeland.

"Like lands" for a tribe who lived along the McCloud River for over six thousand years,
would be along the McCloud River. This land along the McCloud would still be considered
their ancestral land.

The 3,000 acre Bollibokka Fishing Club on the McCloud River was sold to Westlands Water District for nearly \$35 million. Why does the nation's largest water district, located in Southern California (Fresno) want this land?

"We did not want to see the use of this land to be changed to impede the potential of raising the dam." Tom Birmingham, general manager, Westlands. ~Record Searchlight 2/19/2007

It is the very property that would protect the Winnemem Wintu's remaining sacred sites. This is the land that Westlands has recently purchased in their efforts to "de-list" the McCloud River and thereby remove a major impediment to the Shasta Dam raising project.

The Bureau of Reclamation knew the Winnemem were entitled to "like land" for their land the federal government removed them from in the late 1930's. Why didn't the Bureau stop the sale of the Bollibokka fishing club to Westlands?

Your agency's duty to honor your legal commitment to the Winnemem is much older and more important than appeasing special interests in Southern California.

In 1851, the Winnemem (represented by the signature of Numterareman), along with other Wintu bands signed the [congressional] Treaty at Cottonwood Creek which ceded to the United States a vast territory.

In 1914, the U.S. government took steps to purchase land from the Winnemem Wintu.

Congress recognized the Winnemem Wintu in the 1941 Indian Lands Acquisition Act.

For decades the Winnemem received scholarships, health care and permits to gather eagle feathers from the federal government. They had federal tribal recognition.

In the 1980's, the Bureau of Indian Affairs reorganized their Agency and established a Federal Recognition List. The Winnemem Wintu were wrongfully (and secretly) left off of that list. The Bureau of Indian Affairs has not corrected it's own error to this day. The tribe's medical care, scholarships and permits were canceled without notification.

However, the most grievous harm by the Bureau of Indian Affairs is the tribe's loss of sovereign status. Without the Winnemem's rightful status, their fight to save ancestral and sacred sites from permanent destruction is severely compromised.

Until the Winnemem receive 'like lands' for the land Congress acknowledges they took and Congress declared they would compensate the Winnemem for, this project is without moral or legal grounds to proceed. The original deal has never been completed.

Is this the reason for the Bureau of Reclamation's formal "no response" to the theft of the Winnemem Wintu's lands?

The Westlands Water District and the Metropolitan Water District are behind legislation to de-list the McCloud River from current protection under the California Wild & Scenic Rivers Act.

It is the policy of the State of California that certain rivers which possess extraordinary scenic, recreational, fishery, or wildlife values shall be preserved in their free-flowing state, together with their immediate environments, for the benefit and enjoyment of the people of this state. The Legislature declares that such use of these rivers is the highest and most beneficial use and is a reasonable and beneficial use of water within the meaning of Section 2 of Article X of the California Constitution. - The California Wild & Scenic Rivers Act (Public Resources Code Sec. 5093.50 et seq.)

The upper McCloud River offers spectacular waterfalls, great fishing, and shady camping and picnicking spots under towering pine trees. With easy access from Highway 89, the upper McCloud offers a wide variety of outdoor recreation opportunities. The Forest Service acquired 13 miles of this river in 1989 through a land exchange with the Champion timber company. The 2,600 acre river corridor had long been a Forest Service priority for acquisition because of its exceptional recreational and scenic qualities. This segment of the river is considered eligible by the Forest Service for National Wild & Scenic River status due to its free flowing character and outstanding scenic, geological, and fishery values.

According to Friends of the River, the upper McCloud is perhaps best known for its three spectacular waterfalls. They provide an exhilarating sight for hikers and anglers. A short trail extends upstream and downstream from Fowler Campground and provides easy access to the waterfalls. This segment of the river is also popular with anglers, although upstream of the falls, the river provides habitat for the rare McCloud redband trout in two small tributaries closed to fishing.

Included is the following excerpt from a February 2, 2013 Record Searchlight article:

"McCloud River takes central role in the dam-raising proposal" ~By Damon Arthur
Saturday,

The Westlands Water District and Metropolitan Water District, two rich and powerful south state water agencies interested in raising the height of Shasta Dam have the McCloud River in its sights.

The law governing the river' s status forbids any state agency from planning for or building anything that would affect the river. The law also specifically says the state can' t spend money on proposals to raise Shasta Dam.

A U.S. Bureau of Reclamation draft report released last year said it would be economically feasible to raise the dam, but two issues were unresolved: the McCloud' s wild and scenic status and the numerous Winnemem Wintu sacred sites along the river."

The land acquired by Westlands would be sold to the federal government and inundated if officials and lawmakers decided to raise the dam. Will Westlands set the price the federal government, i.e. the people pay for this land? Where are the Environmental Assessments for flooding 3,000 acres of pristine land?

We urge you to visit this amazing wilderness yourself and after it wins your heart, apply for National Wild and Scenic Status protection.

Shasta County was recognized by the federal Environmental Appeals Board, *In Re Knauf Fiber Glass*, as an Environmental Justice community, requiring EJ guidelines to be addressed.

We want to point out that in a Bureau of Reclamation press release dated December 7th, 2012, the Bureau claimed "Reclamation initially released the Draft Feasibility Report in February 2012..." Yet, the first time the Winnemem and Citizens for Clean Air realized the report had been 'released for public comment' was when citizens happened upon your press release on December 9th.

This does not qualify as "Early and sustained involvement with the effected community."

After public outcry, the comment period was extended until January 28. We were never notified of this time extension. Citizens discovered the extension while scrolling through press releases on the Bureau's website.

We attended the September 10, 2013 Bureau meeting held in Redding, CA regarding the SLWRI project. Several times the Bureau's staff mentioned (with humorous groans) that the new Environmental Impact Report was over 1,000 pages. Some people have estimates it to be around 6,000 pages. It is not conveniently numbered. On-line, it is divided into many sections which makes it very time consuming and confusing.

In legal circles, if you want to overwhelm and bog down your opponents, you "blizzard" them with thousands of pages of mostly unnecessary information they have to pick through to find what they need.

"However, for perspective, it relies on the reader being familiar with the massive, 10 year-old EISs for the implementation of the Central Valley Project Improvement Act and the CalFed program. Both documents were about two feet thick; organized for those looking for specific subjects, not overall perspective; and probably hard to find by now. It would be most useful for the revised DEIS, to include an account of the major water problems facing California, each of which is potentially budget-busting in a slow economy. Otherwise EISs for enormous, but still small, billion-dollar parts of the overall picture come across as examples of piece mealing..."

~Sept. 13, 2013 Letter to the Editor, Buford Holt, U.S. Bureau of Rec. (retired.)

1,000's of pages of documents (in an unfriendly format) is a highly unreasonable burden to place on an Environmental Justice community. This is a low income community, with lower than average education rates.

Are citizens supposed to read thousands of pages, analyze the information and compose a comprehensive response in three months? In their spare time?!

Citizens For Clean Air has had volunteers skim through the plethora of sections. We did not

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

find answers regarding the direct and cumulative impacts to this community. These impacts are not being seriously considered.

For example, the Bureau did not appear to think it was appropriate to include new inundation levels for the proposed raising of Shasta Dam. If the dam breaks, I guess we are just out of luck?

The Bureau still claims they do not need to consider the 3M quarry's impact as part of the dam raising project. Isn't a potential "take" site identified in the preliminary EIS the proposed 3M Quarry?

Wouldn't the quarrying of Turtle Bay be considered a related impact on the environment if an EIS was done on the original Shasta Dam project?

Eric Cassano finally received the map he has been requesting for our group, Citizens For Clean Air, on September 15, 2013.

This newly released map is critical for our community's public comments.

Our greatest concern, besides the Winnemem's sacred sites, is the devastation that will come to the residents of Shasta Lake and Shasta County from the proposed 3M Moody Flats Quarry.

The importance of the "Shasta Dam Enlargement Sand and Aggregate Sources" report can not be underestimated. It is only weeks before all public comments are due.

In response to repeated Freedom of Information Act (FOIA) requests, the Bureau claims they have had no communication with the proposed 3M Quarry.

However, it is our understanding that in February of 2012, during a conference call, including Katrina Chow, and community activist Eric Cassano, Ms. Chow informed Mr. Cassano that the Bureau had a geologist who was the contact liaison for the proposed 3M quarry.

At the Bureau's previous July SLWRI workshop in Redding, Bureau representatives told Eric Cassano that the Bureau plans to acquire all the aggregate for the project on site. If that is accurate, then the specific site needs to be identified and the impacts considered in the Draft EIS.

If the Bureau intends to purchase the aggregate from the 3M Quarry, then the Bureau needs to state that now to produce a legally defensible document.

If the 3M Quarry is going to supply aggregate for the project, the City of Shasta Lake is the rightful lead agency. All the impacts of the 3M Quarry must be considered in the Bureau's Draft EIS.

If the Bureau is planning to build a Construction Depot within the City of Shasta Lake borders, then the City of Shasta Lake is the correct lead agency, not Shasta County. Also, the full impact of the Construction Depot must be included in this Draft EIS.

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"Pacific Constructors, the main company building Shasta Dam, set up its own camp near the base of the Shasta Dam site, called "Contractor's Camp"

or "Shasta Dam Village". The company built an enormous 2,000-man mess hall, hospital, recreational center and other venues at the dam site. Three other makeshift camps nearby, called "Central Valley", "Project City", and "Summit City", soon filled with men from all over the state hoping to get jobs at the Shasta Dam as drillers, crane operators, mechanics, truck drivers, carpenters, welders, among others." ~ wikipedia.org/wiki/Shasta_Dam

The 3M Quarry project includes several acres inside the limits of the City of Shasta Lake.

A road within city limits was identified by the facilitator of the 3M Scoping Meeting as being used by the proposed 3M project to bring in fuel and explosives as part of their planned operation. This is not addressed in the Bureau's Draft EIS.

If the Bureau intends to ever use aggregate or cement from the 3M Quarry, they must include the quarry and all its impacts as part of the Bureau's Draft EIS. The Bureau must also go through the Draft EIS certification process with the correct local lead agency - the City of Shasta Lake.

In the Bureau's latest Draft EIS, the document skims over compensation for the residents/businesses if their property is flooded. Bureau representatives left critical questions unanswered. How much would these residents be given for their properties? Which homes will be flooded? Which business will be flooded? How much will they be paid for their businesses? How are the business owners and employees being compensated for years of lost income?

The Westlands Water District, already the largest agricultural user of Northern California water, has purchased 3,000 acres along the McCloud River to "make it easier to one day raise Shasta Dam."

Westlands is also aggressively pushing legislation to remove the existing state law that protects the McCloud River from development or flooding. WWD is privately owned by 'farmers' that don't grow anything. They buy the water at a cheap 'agricultural' rate and resell the water further south at a profit.

Records obtained under the Public Records Act, revealed a "Secret Society" organized in 2009 to influence water rates (and other decisions) at California's largest public water district - The Metropolitan Water District. MWD has an annual budget of \$1.8 billion and serves a six-county region with an annual economy valued at greater than \$1 trillion.

The Delta Watershed acts as a natural limit to how much water can be diverted south. Each year, California pumps about 4.9 million acre feet of freshwater out of the Delta. The proposed Peripheral Tunnels, two giant water tunnels, would have the capacity to carry up to 11 million acre-feet annually. The proponents of the project say they would "never use the tunnels at full capacity."

Why then build them so large? Why not build *one* tunnel?

Page 7

It is indisputable that the additional 6 million acre-feet of water yearly would come from the Sacramento River and other North State Rivers. Therefore, the full impact of the

Peripheral Tunnels must be part of a valid and legally defensible EIS.

According to the Sacramento Bee, Sacramento Mayor Kevin Johnson and City Manager John Shirey have expressed opposition to Governor Jerry Brown's proposal to build these giant tunnels. Johnson expressed concerns over the impact to the region's water supply and habitat. "For us, we want to be good stewards," the mayor said. "I'm going to speak out any chance I get." Shirey said the plan is moving "without any collaboration with the city of Sacramento."

This master plan to ship the North State's water south hinges on the Peripheral Tunnels. If the tunnels are not built, not enough water can get through to make the project viable.

No tunnels means no raising of Shasta Dam. The remaining Winnemem Wintu's sacred sites would not be flooded, businesses and homes in Lakehead would not be destroyed. The resorts on the Lake would not be ruined. The beautiful McCloud River would still be enjoyed by everyone. The City of Shasta Lake would not be devastated by an enormous quarry.

The full impacts of constructing the water tunnels under the Delta as a direct impact of the Shasta Dam raising project must be included.

Sincerely,

Celeste Draisner
Heidi Strand
Citizens for Clean Air
P.O. Box 1544,
Shasta lake City, Ca 96019
(530) 223-0197

D-TCPC Duplicate of O-TCPC



SLWRI BOR MPR <sha-mpr-slwri@usbr.gov>

FW: BOR hearing RE Shasta Dam

1 message

Michael Han <MHan@tcpcadmin.com>

Mon, Sep 23, 2013 at 6:41 AM

To: "bor-mpr-slwri@usbr.gov" <bor-mpr-slwri@usbr.gov>

Dear Katrina Chow,

Please see concerns raised by our team at Shasta Recreation Company.

I look forward in seeing your responses to all of the questions and concerns raised at the hearings. Should you have any questions please don't hesitate to give me a call at 530-355-4990.

With kind regards,
Michael Han
General Manager, Northern California
Corporate Director of Safety and Training

"The California Parks Company values safety first, no excuses"

From: Kris Koeberer
Sent: Wednesday, September 11, 2013 1:04 PM
To: Michael Han; Marshall Pike
Cc: John Koeberer; Pam Pitts
Subject: RE: BOR hearing RE Shasta Dam

Mike,

Our questions should revolve around the BOR's plan to re-develop recreation areas impacted by water covering existing facilities. Our preference is for less but larger campgrounds updated to meet the needs of the current and future recreational users. This includes but is not limited to the following.

- Larger pull-thru RV sites

- Full-hook ups
- Wifi
- Shower Facilities/updated flush restrooms
- Playgrounds
- Park Models, Yurts etc....
- Parking for additional vehicles and trailers
- Automated fee boards (reader boards)

In regard to launch ramps.

- Longer and wider ramps with low-water capability
- Expanded parking particularly in the JV, Centimudi and Antlers areas.
- Entrance gates
- Automated Pay Stations
- Security/Surveillance Systems
- Improved rail systems

Kris Koeberer
Vice President
The California Parks Company
530-529-1512
www.calparksco.com<<http://www.calparksco.com/>>
A Safety First Company

D-LAFO Duplicate of O-LAFO



DLA Comments - Shasta Dam Raising PDEIR 9-30-13

Lily Evans <lilylily@mail.com>
To: BOR-MPR-SLWRI@usbr.gov

Mon, Sep 30, 2013 at 11:53 PM

Dear Ms. Katrina Chow, Project Manager, US Bureau of Reclamation, Planning Division, Sacramento, CA
9/30/13

Please accept the attached public comment letter that addresses the noise impacts of the proposed Shasta Dam Raising Project.
This comment letter is submitted in reference to the Shasta Lake Water Resources Investigation and preliminary draft EIS.

If you have any questions, please let me know and I will forward them to Mr. La Forest.

Thank you sincerely,

Lily Evans
Assistant to Dale La Forest

 **DLA Comments - Shasta Dam Raising PDEIS_9-30-13.pdf**
1038K

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Design, Planning & Environmental Consulting
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Mt. Shasta, CA 96067
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Katrina Chow, Project Manager
US Bureau of Reclamation, Planning Division
2800 Cottage Way
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e-mail: BOR-MPR-SLWRI@usbr.gov

SIGNIFICANT NOISE IMPACTS
SHASTA DAM RAISING PROJECT
Shasta Lake Water Resources Investigation
Preliminary Draft Environmental Impact Statement

Dear Ms. Chow:

September 30, 2013

I submit this comment letter on behalf of the residents of Shasta Lake City. This comment letter addresses some of the potentially significant noise impacts that the Shasta Dam Raising Project's construction activities may create in its vicinity. The Shasta Lake Water Resources Investigation's Preliminary Draft Environmental Impact Statement (PDEIS) fails to adequately disclose those noise impacts. It fails to contain a professional and meaningful acoustical study that accurately predicts such noise impacts. An EIS is required to evaluate a project's noise impacts on homes and schools that are considered to be "noise sensitive" so that effective mitigations can be adopted.

I am a professional planning consultant, architectural designer, and expert acoustical consultant. I have over 20 years of experience in evaluating the environmental noise impacts in California. Projects such as this dam raising construction project can generate significant noise impacts at homes affected by such construction noise or its related off-site transportation noise from increased vehicles and heavy trucking.

All too often project proponents only focus on noise impacts caused by on-site construction activities. This comment letter focuses on how this Project's off-site traffic will create significant noise impacts that may continue for as long as five years to residents within and near Shasta Lake City and elsewhere. But with a massive, long-lasting construction project like this one, those significant off-site construction traffic impacts can linger so long that they seem nearly permanent to affected residents. This isn't a project that can be tolerated or endured for just a few days or weeks. Exposure to excessive project-related noise levels for years can cause serious health impacts to affected residents, as well as immediate sleep-disturbance impacts.

There are homes located very near this Project's main haul routes along Lake Boulevard and Shasta Dam Boulevard that could be adversely impacted by this Project's substantial increase in

construction traffic and heavy trucking. Some of these homes appear to be only about 50 feet from the centerline of these roads as described below with some examples. The PDEIS fails to describe in any meaningful detail (i.e. with maps) that residents also live along Shasta Dam Boulevard and Lake Boulevard where heavy truck traffic would deliver construction materials to the Project and where large numbers of construction workers will pass for years.

PHOTOS OF EXISTING HOMES IN SHASTA LAKE CITY AS EXAMPLES OF HOW CLOSE PEOPLE LIVE TO THIS PROJECT'S ARTERIAL ACCESS ROUTES



EXISTING HOMES WITHIN 50 FEET OF CENTERLINE OF SHASTA DAM BOULEVARD



EXISTING HOMES WITHIN 50 FEET OF CENTERLINE OF LAKE BOULEVARD

The point of showing these photos is to clarify a point missing in the PDEIS: that some homes are so close to this Project's access roads that the noise from the large increase in construction traffic will severely impact these residents. There are other homes in Shasta Lake City that are farther from the centerline of these arterial roads that will also be exposed to excessive construction noise levels, even if not as severely as these examples at 50 feet away. The PDEIS should have included existing noise level measurements at such adversely impacted homes. Only if one first knows how loud traffic noise is for such homeowners can one calculate whether or not the noise level increase during construction traffic operations will be significant. While the PDEIS only purports to estimate that noise levels won't increase by more than 3 dBA, an even lesser increase could still be significant. Or using other relevant standards, if traffic noise levels along Lake Boulevard where homes are nearby are much lower than along Shasta Dam Boulevard, then this Project's heavy trucking and large numbers of employee trips could have a greater relative noise impact.

As the PDEIS states, "where existing traffic noise levels are greater than 65 dB Ldn, a + 1.5 dB Ldn increase will be considered significant." The problem is that the PDEIS never applied this more restrictive threshold of significance to the circumstances that exist in Shasta Lake City.

The PDEIS also contains no hourly equivalent noise level (L_{eq}) measurements. It defines such L_{eq} measurements on page 8-5, but never bothered to actually acquire such necessary measurements. Without such actual existing hourly equivalent noise levels, the public cannot determine whether this Project complies with the Shasta County's noise standards that include restrictions based upon such L_{eq} noise levels.

Shasta County Noise Element

Policy N-f – Noise created by new transportation sources shall be mitigated to satisfy the levels specified in Table 8-5 at outdoor activity areas and/or interior spaces of existing noise-sensitive land uses. Transportation noise shall be compared with existing and projected noise levels.

Table 8-5. Noise Level Performance Standards for New Projects Affected by or Including Nontransportation Sources

55 dB Hourly L_{eq} , Daytime (7 a.m. to 10 p.m.)
50 dB Hourly L_{eq} Nighttime (10 p.m. to 7 a.m.)

But no hourly L_{eq} noise level measurements are included in the PDEIS. This Project is not apparently being prohibited from operating at nighttime, so it would be required to meet the more restrictive nighttime noise standards. The PDEIS fails to disclose that this Project would expose people to and would generate noise levels in excess of local standards and other applicable standards of other agencies.

THIS PROJECT WOULD GENERATE SUBSTANTIAL AMOUNTS OF CONSTRUCTION TRAFFIC NOISE

As described in either the City of Shasta Lake's comment letter of September 27, 2013, or in the DEIS, Chapter 20, page 20-8, import of fill and construction materials and export of construction waste would result in 122 - 177 truck trips per day for up to 5 years; export of vegetation would result in 52-75 round trips per day for up to 3.5 years; and the construction labor force would add average of 900 daily round trips for up to five years. This increased traffic has the potential to result in significant noise impacts to the residents living near this Project's access routes.

Since, according to CalTrans, the passing of a single heavy truck can generate as much noise as that of about 28 automobiles, this Project's possible increase of 177 truck trips per day hauling construction aggregates and materials would make as much noise as about 4,956 cars per day. Add to that other medium weight trucks and about 900 auto trips for construction workers, this Project may generate as much traffic noise as if nearly 6,000 extra cars passed by those nearby homes along Lake Boulevard and Shasta Dam Boulevard. Residents of Shasta Lake City should be informed of the true noise impact of such a possible five-year long Project on their lives.

NIGHTTIME CONSTRUCTION AND TRAFFIC NOISE IMPACTS WILL BE SIGNIFICANT

The PDEIS places no restrictions on the hours of the day during which this Project would be allowed to operate or to conduct its off-site transportation activities.¹ The PDEIS, p. 8-27,

¹ To quote from the PDEIS, "Typical construction would occur during daylight hours Monday through Friday, but the construction contractor may extend the hours and may schedule construction work on weekends if necessary to complete aspects of the work within a given time frame." (*emphasis added*.)

therefore acknowledges that the Project's evening, nighttime and early morning construction activities could create a significant noise impact.² The PDEIS proposes Mitigation Measure Noise-1 that includes a restriction to limit construction noise at non-dam sites to only during daytime hours of 7 a.m. to 10 p.m., Monday through Friday. But the PDEIS places no time-of-day restriction on construction noise at the dam site or along the haul routes leading to the dam. In realistic terms, that guarantees that residents along Shasta Dam Boulevard and Lake Boulevard will be exposed to loud heavy trucking noise before 7 a.m. During the hot summer months, construction activities, worker traffic and material shipments typically begin operating before 7 a.m. to avoid the heat of day. Accordingly, there is no evidence that Mitigation Measure Noise-1 is adequate to reduce this Project's non-daytime construction noise impacts. For example, since the PDEIS considers evening (7 p.m. – 10 p.m.) construction noise to be potentially significant, but its mitigation measure does not restrict such evening noise levels, then this Mitigation Measure Noise-1 will not reduce the Project's evening noise impacts to less-than-significant.

MAXIMUM EXISTING TRAFFIC NOISE LEVEL ARE UNDERESTIMATED

The Project's maximum existing daily traffic noise level on any major access route may also be greater than the average daily traffic noise levels that the PDEIS calculates. The PDEIS incorrectly estimates existing traffic noise along this Project's access routes. It does so in at least two ways:

- 1) It uses outdated traffic counts from 2006 and provides no traffic counts whatsoever for some road sections of Shasta Dam Boulevard where sensitive users exist.
- 2) It fails to consider the worst case (i.e. loudest) noise levels that traffic generates at some hours of the day. Caltrans³ instructs that "[a]ll Caltrans highway traffic noise analysis should be done in terms of the worst noise hour $L_{eq}(h)$," but the worst noise hour is not evaluated in this PDEIS. Thus, the Project's maximum existing noise impacts have been underestimated in the PDEIS's calculation that is based on average traffic counts, and not maximum hourly counts.

The consequence of the PDEIS having underestimated the current traffic noise levels is that the true severity of this Project's additional construction traffic noise is not being evaluated and mitigated.

On the other hand, the data the PDEIS relies upon does not accurately correlate with the most current CalTrans data. For example, the PDEIR, in Table 8-2, describes a traffic count of 5,500 ADT on SR 151 in Shasta Lake yet no current CalTrans data in the vicinity is that high. The 2012 CalTrans traffic count on Shasta Dam Boulevard to the east of Lake Boulevard is much lower and only about 1,550 AADT.⁴ Further east yet along Shasta Dam Boulevard, CalTrans's

² In terms of noise impact analysis, the "daytime hours" are considered either to be from 7 a.m. to 10 p.m. (under the L_{dn} standards) or 7 a.m. to 7 p.m. (under the CNEL standards).

³ See: *Technical Noise Supplement, A Technical Supplement to the Traffic Noise Analysis Protocol*, October 1998, page 44, by California Department of Transportation. Available online at: <http://www.dot.ca.gov/hq/env/noise/pub/Technical%20Noise%20Supplement.pdf>

⁴ See 2012 CalTrans data here for SR-151 online: <http://traffic-counts.dot.ca.gov/2012all/Route134-161.htm>

2012 traffic count increase to about 2,250 AADT, still only half as much as the PDEIS reports from 2006. There are homes within about 50 feet of Shasta Dam Boulevard along this road section, some of which are pictured above. The PDEIS calculates that an existing 5,500 ADT results in an existing traffic noise level 68 dBA L_{dn} . But if the more recent data of 2,250 AADT is used, with less than half as many vehicles, then the existing traffic noise levels along that road section might be about 65 dBA L_{dn} and not 68 dBA L_{dn} as the PDEIS calculates. Those are still noise levels that exceed the City's standards, but this Project's heavy traffic and other cumulative traffic would constitute a greater percentage increase and would thus generate a greater traffic noise level increase than the PDEIS reports.

NOISE IMPACTS TO MOUNTAIN LAKES HIGH SCHOOL WOULD BE SIGNIFICANT

The PDEIS, p. 8-10, inaccurately describes that the nearest school to construction activities is approximately 500 feet away. It totally ignores that another school, the Mountain Lakes High School, is less than about 50 feet away from Lake Boulevard at the Shasta Dam Boulevard intersection where off-site Project-generated construction traffic will pass. Construction traffic is a construction activity, and its noise impacts must be disclosed and mitigated where feasible. The PDEIS, in Table 8-7, identifies that the "maximum allowable noise exposure" from transportation noise sources at playgrounds and parks is 70 dBA L_{dn} /CNEL at the property line.

This outdoor activity area, at the intersection of two roads, may be exposed to noise levels in excess of 70 dBA L_{dn} /CNEL. The PDEIS calculates noise levels from just traffic along Shasta Dam Boulevard as being about 68 dBA L_{dn} at 50 feet, and that doesn't include the additional noise from traffic on Lake Boulevard nor future noise from other foreseeable projects. The City of Shasta Lake has an even stricter noise standard to limit the noise level in outdoor activity areas at schools of 60 dBA L_{dn} .⁵ The photo below shows just such an outdoor activity area with a tree-shaded picnic table and students using it near the Lake Boulevard property line to the west.

Photo and aerial photo of Mountain Lakes High School:



The PDEIS calculates that the existing noise level along Shasta Dam Boulevard was 68 dBA L_{dn} at a distance of 50 feet from the centerline of that road. That means traffic noise is quite excessive at this school's southern property line also about 50 feet from the centerline where such

⁵ See Shasta Dam Area RP Fourth Amendment DEIR, Feb. 2008, Table 6.6-3. (Document accessed online on 9/30/13 at: <http://www.ervincg.com/pdf/DEIR-SDARP4A.pdf>. A copy will be made available if requested.

noise standards apply. That noise level, especially when updated for the increased traffic now some seven years later, will be at least 8 dBA louder than the City's standards allow. This Shasta Dam Raising Project's construction traffic would expose this school to up to five years of increased heavy trucking noise, raising noise levels at the school even higher. The possible approval of the Moody Flats Quarry near the Shasta Dam would generate an even greater amount of additional, cumulative noise at this school.⁶ Such increases in traffic noise would likely exceed 3 dBA during the Shasta Dam Raising Project's construction and would be considered significant. Since the standard however for noise sensitive land already exposed to more than 65 dBA L_{dn} is even lower, where only a 1.5 dBAL/CNEL noise level increase is considered to be significant, there should be no doubt this Shasta Dam Raising Project will create a significant noise impact to users of that school.⁷

In *Los Angeles Unified School District v. City of Los Angeles* (1997) 58 Cal.App.4th 1019, the Court overturned an approval by the City of Los Angeles of a development that would have exposed an existing school to even higher unacceptable traffic levels. The court ruled that an increase under those circumstances in 1997 that might have been only 2.8 dBA was nonetheless significant. Some of that decision⁸ is entirely relevant to this Shasta Dam Raising Project's noise impacts:

"The EIR is inadequate because it fails to consider the cumulative impact of existing and projected traffic noise at the schools."

"The EIR in the present case concluded there would be no significant impact on the schools from increased traffic noise. The existing ambient noise level of 72.1 dBA already exceeds the Department of Health's recommended maximum of 70 dBA and would only increase by another 2.8--3.3 dBA at build-out, an increase the EIR considered "insignificant." "

"The City ignores the statutory requirement the EIR consider the cumulative effects of the project on the environment..."

"We conclude the evidence in the record does not support the EIR's finding the plan will have no significant impact on traffic noise at Canoga Park High School and Parkman Junior High School ..."

The same conclusion now applies to this Shasta Dam Raising Project's PDEIS and its construction traffic noise impacts to this Mountain Lakes High School; the cumulative noise impacts will be significant. The PDEIS must be revised to correctly include such analysis and noise mitigation.

⁶ The proposed Moody Flats Quarry project site is adjacent to the City's northerly city limit, southeast of the Shasta Dam complex. The proposed Quarry would also utilize SR 151 during a portion of its construction operations.

⁷ See PDEIS: "Where existing traffic noise levels are greater than 65 dB L_{dn} , a + 1.5 dB L_{dn} increase will be considered significant."

⁸ Court decision in *Los Angeles Unified School District v. City of Los Angeles* is available online here: http://ceres.ca.gov/ceqa/cases/1997/la_unified.html

INAPPROPRIATE THRESHOLD OF SIGNIFICANCE FOR NOISE IMPACTS

The PDEIS, on page 8-28, is inaccurate in reference for this construction project to state that it would typically require a doubling of traffic volumes on area roads in order for the noise level along those roads to increase by 3 dBA. This Shasta Dam Raising Project would not represent not a "typical" situation. Heavy construction vehicles hauling aggregate and materials typically emit much more noise than typical automobiles. The percentage of heavy trucks during these five years of construction would be much greater than occur currently with recreational traffic along these access roads. Each heavy truck produces approximately as much noise when passing a home as 28 automobiles. Thus, a much smaller percentage increase in construction traffic could result in a 3.0 dBA CNEL/L_{dn} noise level increase. The PDEIS must be revised to evaluate the actual circumstances with louder heavy trucking noise rather than some irrelevant rules of thumb that greatly understates the noise impacts to nearby homes.

The PDEIS uses the wrong threshold of significance for noise impacts caused by noisy construction-related traffic. It considers the severity of noise level increases of 3.0 dBA L_{dn} or less to be less-than-significant. However the courts in California have ruled that even lesser noise level increases along roads that are already excessively noisy can be significant. For example, in *Grey v. County of Madera* (2008) 167 Cal.App.4th 1099, the court found even a 2.1 dB increase at a residence due to a project's increased heavy trucking to be significant for a road already exposed to excessive noise levels.⁹ The PDEIS identifies that one of the major access routes to this Project, Shasta Dam Boulevard, as based on outdated traffic information from 2007, was exposed to noise levels of 68 dBA CNEL at a distance of 50 feet from its centerline. 68 dBA CNEL is excessive noise exposure already because the BLM and Shasta County consider noise levels of 60 dBA CNEL to be limit for acceptable exposure.

The PDEIS, p. 8-9, Table 8-2, fails to measure, predict or describe what noise levels currently exist along Lake Boulevard where existing residences are located to the north of Shasta Dam Boulevard. Construction traffic is allowed to and will also pass along that route. The PDEIS Table 8-2's calculation or modeling is also outdated because it relies upon traffic counts from 2006 that are more than 7 years old. The PDEIS also fails to state what the average daily volume of traffic is along Lake Boulevard. As such, the PDEIS is inadequate and must be revised.

⁹ Quote from the Court's decision in *Grey v. County of Madera* (2008) 167 Cal.App.4th 1099, 1122-1123: "Here, the Madera County General Plan Noise Element establishes that for residential uses affected by transportation noise sources (off-site traffic in this case), 60 dBA Ldn (Day-Night Average Level noise descriptor) is the maximum acceptable noise level. All of the sites tested for SR 41, however, show that existing traffic noise levels are already in excess of this amount. Thus, the EIR should consider whether the cumulative noise impact would be significant when increases of up to 2.1 dBA are added to the existing noise level. For example, even though a 2.1 dBA noise in isolation will not be noticeable, when added to an already high noise level, it could cause a tipping point of noise problems for the general public. The EIR, however, does not analyze this issue and merely concludes that it would not be significant because "[I]t is generally recognized that an increase of at least 3 dB is usually required before most people will perceive a change in noise levels." This bare conclusion cannot satisfy the requirement that the EIR serve as an informational document."

The "Shasta Dam Area Redevelopment Plan Fourth Amendment DEIR" states that the 1999 Shasta Lake General Plan EIR identified that Lake Boulevard to the north of Shasta Dam Boulevard had 2,400 average daily trips.¹⁰ That figure shows that residents along Lake Boulevard are exposed to less traffic and therefore less traffic noise than those along Shasta Dam Boulevard (5,500 ADT or more if the reader believes the PDEIS). Accordingly, construction traffic noise from this Shasta Dam Raising Project would result in a more noticeable noise impact to residents along Lake Boulevard than this PDEIS considers.

The PDEIS fails to describe the existing (2012 or 2013) traffic noise levels on those various streets where Project-related construction traffic will likely pass. Therefore it fails to support with substantial evidence its conclusion that traffic noise from temporary construction vehicles will not increase those noise levels by less than 3 dBA CNEL/L_{dn}.

Other noise standards that need to be examined are found in federal regulations, in other communities' regulations, and in case law. The County of Shasta has a limited set of noise standards in its General Plan. But those are not the only measures of whether this Project will have a significant noise impact. CEQA allows and requires an agency to examine the full range of significantly harmful noise impacts, even if the agency has not adopted specific noise limits for all types of noise. Under conditions such as is found with Shasta County's limited set of noise standards, this PDEIS should examine whether the Project will adversely impact people in other measureable ways.

Some communities examine whether a project will increase the ambient noise level by greater than a specified amount, and if so, then they will deem such a noise increase to be significant. In Oregon, for example, developers of commercial projects are not allowed to increase the ambient noise levels of quiet, previously undeveloped land by more than 10 dBA during any hour of the day. Those noise standards are also applied on the basis of the time of day, and on the basis of how frequently excessive noise occurs within any given hour.¹¹

The A-weighted sound level alone, however, is not sufficient to describe the noise environment at any given location, due to the fact that environmental sound levels tend to change frequently with time. Therefore, an environmental noise descriptor needs to address the length of time sound is present as well as the level of the sound. One environmental noise descriptor used widely throughout the United States is the "Statistical Sound Level." The statistical sound level is given as "L_{xx}," which corresponds to the level exceeded "xx" percent of the specified measurement time. For example, the L₅₀ would be that level exceeded 50% of the time during a specified time period. Similarly, the L₁₀ is exceeded just 10% of the time. Typically, in noise regulations and standards, the specified time period is one hour. The PDEIS could fashion effective mitigations by evaluating these types of standards and restricting noise levels with specific numerical limits based upon how often the noise exceeds these levels. This is one

¹⁰ See: <http://www.ervincg.com/pdf/DEIR-SDARP4A.pdf> as available online

¹¹ In light of Shasta County's rural character, on the basis of which many of its residents have chosen to make Shasta County their home, the PDEIS should consider Oregon's approach to regulating new commercial or industrial noise sources in its agricultural areas. See, http://arcweb.sos.state.or.us/rules/OARs_300/OAR_340/340_035.html.

measurement methodology that is used in some California communities, as well as in Oregon.

THE PDEIS CONTAINS NO ANALYSIS OF PROJECT SLEEP-DISTURBANCE IMPACTS

This Project's traffic noise will likely cause significant sleep-disturbances to residents living elsewhere along the main travel routes to the construction sites. Some people live close enough to Lake Boulevard and Shasta Dam Boulevard that their sleep may be significantly disturbed by this Project's added early morning or nighttime truck traffic. The PDEIS is defective for failing to disclose that information. It never even mentions or examines such sleep-disturbing traffic noise impacts.

The PDEIS is also inadequate for failing to evaluate how loud this Project's sleep-disturbing impacts may be. Individual heavy trucks can generate brief but loud noise levels that can awaken people and harm their health and well being. Yet this PDEIS never evaluates such noise impacts, as measured with the "single event level" (SEL) descriptor. The court in *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 CA4th 1344 ruled against a project's Environmental Impact Report where the project would generate additional airplane flyovers with up to 61 dB (SEL) impacts. It ruled that a consultant's disclosure of 61 dB SEL was loud enough to disturb the sleep of about 30% of the people under the flight paths. In that case, its EIR disregarded such sleep disturbance impacts and only considered whether the Project was consistent with general plan noise standards. This is the same error that the PDEIS is now making. With possible significant noise impacts in this instance for homes at about 50 feet from Shasta Dam Boulevard and Lake Boulevard that are not protected by topographic features, this Project's sleep-disturbing noise from increased passenger vehicles and its construction-related trucking will be louder than 61 dB (SEL) and potentially more disturbing yet.

The purpose of mitigation measures is to reduce such noise impacts. The PDEIS cannot legitimately claim to have mitigated noise impacts unless it can demonstrate the probable effectiveness of such mitigation as it proposes. With respect to noise impacts, it is quite feasible to accurately quantify both anticipated impacts and proposed mitigation. Here, the PDEIS does neither.

That essential error defeats some of NEPA's and CEQA's important objectives—to ensure adequate mitigation in order to limit exposure to impacts, in this case excessive construction noise. At the very least, NEPA and CEQA require even temporary construction-related noise levels to be evaluated, and mitigated if feasible. This PDEIS is inadequate in that it establishes no specific maximum noise levels for construction noise, and fails to propose or analyze reasonably feasible mitigation measures.

AN ACOUSTICAL ANALYSIS IS REQUIRED

The PDEIS is inconsistent with the Shasta County requirement that an "acoustical analysis" is required because it fails to include any adequate acoustical analysis. The Shasta County General Plan Noise Element's Policy N-c requires such an acoustical analysis be prepared when this Project would likely produce noise levels that exceed the performance standards on existing noise-sensitive uses. The PDEIS itself even acknowledges that construction noise levels will

exceed acceptable limits for some homes. The standards for an acoustical analysis are described in the PDEIS, page 8-16, Table 8-6, as copied from the Noise Element. But the PDEIS fails to comply with those minimal requirements because:

- It appears not to have been prepared by a qualified person experienced in the fields of environmental noise assessment and architectural acoustics. That is evidenced by the many flaws in the PDEIS's chapter 8 regarding noise impacts and its misunderstanding of Federal and California law on this subject of this Project's noise impacts.¹²
- It fails to include any representative noise level measurements to describe the local conditions and predominant noise sources. There is no evidence anywhere in the PDEIS that any noise level measurements were taken anywhere related to this Project.
- It fails to estimate the existing and projected (20 years) noise levels at homes affected by this Project and compare them with the policies of the Noise Element. The Project will obviously have short-term construction noise impacts that will be significant. It will also have long-term noise impacts due to increased traffic and altered recreational access that should have been predicted for 20 years in the future.
- It fails to recommend appropriate noise mitigation for homes exposed to excessive heavy trucking noise impacts.
- It does not estimate the noise exposure after the prescribed Mitigation Measures have been implemented.
- It contains no post-project assessment program to evaluate the effectiveness of the proposed Mitigation Measures.

Without a professional acoustical analysis upon which to base its conclusions, the PDEIS has no valid support for its determination that the Project's noise impacts will be less-than-significant. Since this PDEIS must also comply with the California Environmental Quality Act in evaluating noise impacts on County, and not only on Federal roads, such an acoustical analysis that meets CEQA requirements and case law must be prepared for this Project.

ADDITIONAL NOISE MITIGATION SHOULD BE CONSIDERED

The PDEIS, when revised for additional noise impact analysis, must analyze and could require as conditions of approval a range of common and reasonably feasible noise mitigations to be

¹² This comment that questions the professional qualifications behind the PDEIS's noise chapter is not meant to be unduly harsh. There may be other unnamed professionals who contributed to the noise impact chapter of this PDEIS who, if identified, might tend to support the credibility of this PDEIS study. But for purposes of an EIS or an EIR, the public is entitled to the assurance that the preparer of such noise studies is qualified, accurate and truthful in his reports. The means for an EIS to provide that public assurance is to describe somewhere what personnel worked on the EIS and describe their professional qualifications. As to the qualifications of the preparer of the noise chapter of the PDEIS, it only identifies one person, Jake Weirich, having a B.S., Sound Engineering; with 4 years experience, Noise and Vibration, Air Quality and Climate. But the University of Michigan's Bachelor of Science in Sound Engineering does not appear to qualify a person in California for the fields of environmental noise assessment and architectural acoustics, and no substitute qualifications are provided in the PDEIS either. (See: http://www.music.umich.edu/departments/pat/bs_curr_d.htm) To comply with the Shasta County General Plan's Noise Element for a required *acoustical analysis*, more information is needed to support that an acoustical analysis has actually been prepared by a "qualified person experienced in the fields of environmental noise assessment and architectural acoustics."

implemented to reduce the Project's noise impacts on its neighbors including:

- Requiring that construction noise levels do not exceed a specific decibel level that is consistent with the current maximum noise levels permitted by the Shasta County General Plan Noise Element and the Shasta Lake City General Plan Noise Element.
- Limiting startup hour to 8 a.m. to lessen the Project's sleep-disturbance to neighbors.
- Prohibit any off-site trucking to or from the Project site except during the approved hours.
- Conditioning the Project such that its trucking would be prohibited from using certain routes where homes are located very close to those roads at times of the day that would exceed allowable noise levels.
- Require a sufficiently tall and continuous noise berm of earth or rock that wraps closely around construction areas to lower the Project's noise transmission to existing distant homes. Earth berms are commonly used to effectively reduce sound levels. In addition, require as necessary portable on-site noise barriers. Install noise berms or noise walls where off-site trucking would significantly impact existing neighbors near those roads.
- Require better-than-average mufflers on construction equipment, mobile equipment, and haul-trucks to lower their noise emissions by at least 5 dBA lower than typical mufflers.
- Retrofit existing homes nearest to the Project's haul routes with sound-resistant windows and other structural noise-proofing, including air-conditioning for warm summer operations.
- Replace backup alarms or bells with a signaling operator, or use variable level backup alarms that measure the background sound between the beeps and vary the amplitude so as to generate an OSHA-compliant sound level. A feasible mitigation for some noise impacts might include the use of flashing lights instead of backup beepers under low-light conditions during nighttime hours.
- Relocate on-site equipment, or select inherently quieter units.
- Install sound-measuring devices at nearby homes to provide neighbors with information on whether they are being adequately protected.
- Use noise monitoring and inspections to ensure that mitigation measures are in place and operating, and that noise standards are being met.

Based on these comments, it should be abundantly obvious that the PDEIS's discussion and mitigation of the Project's noise impacts is inadequate and fails to comply with NEPA and CEQA. Please revise the PDEIS and provide additional opportunity for public review afterward.

Thank you for considering these comments. Please notify me of any additional opportunities there may be to review this Project or its related environmental documents.



Dale La Forest
Professional Planner and Designer
Dale La Forest & Associates

D-TNC Duplicate of O-TNC



DUNCAN, KATHLEEN <kduncan@usbr.gov>

Fwd: TNC comments on SLWRI DEIS_September 30, 2013

1 message

KATRINA CHOW <kchow@usbr.gov>
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Wed, Oct 23, 2013 at 1:07 PM

Sent from my iPhone

Begin forwarded message:

From: Ryan Luster <rluster@TNC.ORG>
Date: September 30, 2013, 3:49:35 PM PDT
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Subject: TNC comments on SLWRI DEIS_September 30, 2013

Please find attached comments on the Draft EIS for the SLWRI.

Thank you,

Ryan Luster

The Nature Conservancy

Project Director - Sacramento River

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 **TNC comments on SLWRI DEIS_Sept 30 2013.pdf**
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Katrina Chow
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Bureau of Reclamation
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September 30, 2013

Dear Ms. Chow,

Following are comments from The Nature Conservancy (the Conservancy) on the Draft EIS SLWRI.

In general, our concerns and suggestions center on the impacts the proposed alternatives will have on habitat forming river processes. SLWRI proposes five alternatives (CP1-CP5), all of which will further truncate high flows and/or modify the timing of flows that are required create and maintain habitat for several riverine-dependent species.

Concern 1.

Impact Wild - 24: Impacts on Bank Swallow Along the Lower Sacramento River Resulting from Modifications of Geomorphic Processes in CP1-5.

The Bureau states that under the alternatives, river flows would be reduced such that the rate of erosion would be reduced but the length of eroded banks would not change therefore there would be no impacts on bank swallow habitat. See P13-194, lines 21-29 as an example of this recurring statement of Impact Wild-24:

"Implementing CP4 would cause a small reduction in the magnitude, duration, and frequency of intermediate to large flows in the lower Sacramento River. This reduction also would alter the river's geomorphic processes. The rate of bank erosion would be reduced, but the length of eroding banks would not be substantially altered, and thus, nesting habitat for bank swallows would not decline substantially. High flows during the nesting season that may cause localized bank and nest failure would not increase. The impact on habitat for bank swallow nesting colonies, and therefore bank swallows themselves, would be less than significant."

This, and other similar statements regarding the impacts of reduced erosive flows, suggest that reducing the rate of bank erosion would not have negative impacts on bank swallow habitat. This is contrary to all field based research conducted on bank swallows. There is no analysis in the DEIS to support such claims, the Bureau needs to provide evidence that reducing lateral erosion in bank swallow colonies will not have negative impacts on their habitat.

The Conservancy requests that the Bureau consult and incorporate recommendations from the attached bank swallow conservation strategy [Attachment 1_ Bank Swallow (*Riparia riparia*) Conservation Strategy for the Sacramento River Watershed, California].

Concern 2.

Sections 12.3.4 and 13.3.4 describe Direct and Indirect Effects from the various action and no-action alternatives. Under several of the alternatives, there is a recurring paragraph that refers to Section 12.2. For example:

Page 12-100, lines 14-20:

"However, under the No-Action Alternative a number of management and restoration plans and programs would be implemented. These actions are described in Section 12.2, "Regulatory Framework," of this DEIS. These actions would cause beneficial effects that would likely be of similar magnitude as the anticipated adverse effects of small changes in flow regime and of continued effects from past actions, and thus would largely offset those adverse effects."

Page 13-91, lines 13-91

"Impact Wild-18 (No-Action): Impacts on Bank Swallow in the Primary Study Area Resulting from Modifications of Geomorphic Processes Future conditions for bank swallows are not expected to differ substantially from existing conditions because of the restoration projects being implemented on the Sacramento River (see Section 12.2, "Regulatory Framework," in Chapter 12, "Botanical Resources and Wetlands"). This impact would be less than significant."

These paragraphs imply that the Bureau is relying on other projects and organizations to offset the potential negative impacts from the proposed SLWRI. The Bureau needs to clarify how they are able to use other projects as mitigation for SLWRI and/or how the Bureau is relying on other agencies' efforts to offset potential impacts from SLWRI.

Suggestion 1. Use the Sacramento River Ecological Tool (SacEFT)

The Conservancy has developed the Sacramento River Ecological Flows Tool (see attachment 2) to evaluate the impacts from proposed water management projects on a suite of Sacramento River and Delta species. We suggest that the Bureau use SacEFT to help better understand the potential impacts, both positive and negative, from implementing each of the SLWRI alternatives.

Please contact me if you have any questions regarding our comments.

Sincerely,



Ryan Luster
Sacramento River Project Director
530-897-6370, ext. 213
rluster@tnc.org

Attachment 1. Bank swallow conservation strategy

Bank Swallow Technical Advisory Committee

A Bank Swallow Conservation Strategy for the
Sacramento River Watershed

Bank Swallow (Riparia riparia)
Conservation Strategy for the
Sacramento River Watershed, California



Bank Swallow Technical Advisory Committee

June 2013



Cover photo: Bank Swallows perched at the entrance of a nest burrow.

Photo by Dave Bogener, 2013

Bank Swallow Technical Advisory Committee

A Bank Swallow Conservation Strategy for the
Sacramento River Watershed

Bank Swallow (*Riparia riparia*) Conservation Strategy for the Sacramento River Watershed, California

Version 1.0
June 2013

Bank Swallow Technical Advisory Committee

Suggested citation:

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EXECUTIVE SUMMARY

The Bank Swallow is a State-listed Threatened Species and is intimately tied to natural river processes; its presence in sustainable numbers is an indicator of a healthy river system on which many of California's species depend. Most Bank Swallows in California nest along the Sacramento River and its tributaries, excavating burrows in vertical banks created by natural river processes. Natural river processes include bank erosion and deposition resulting from lateral migration of rivers within their natural meander belt and floodplain.

The population of Bank Swallows using the Sacramento River system has been estimated by counting burrows and has trended downward from 24,580 burrows in 1986 to 15,000 burrows in 2012. Burrow numbers on the Feather River have also declined, from almost 6,600 in 1987 to 2,320 in 2012. The continued decline of the Bank Swallow population in California coincides with the increase of rock revetment placed on the banks of the Sacramento River between Red Bluff and Colusa, from 50,000 linear feet (10 miles) in 1970 to 275,000 linear feet (52 miles) in 2010; and 64,000 linear feet (12 miles) of revetment on the Feather River. Nesting Bank Swallows have also been affected by alterations to the river's natural hydrology with the installation of water storage and flood control facilities, primarily dams.

The Bank Swallow Technical Advisory Committee (BANS-TAC) is a diverse coalition of State and federal agency and non-governmental organization personnel, created in response to the continued decline of Bank Swallow (*Riparia riparia*) populations on the Sacramento River. The BANS-TAC's mission is to promote collaborative long-term conservation and recovery of the Bank Swallow along the Sacramento River, its tributaries, and other areas throughout California by coordinating and supporting monitoring and research, habitat restoration and management, and outreach and education. To that end, the BANS-TAC has produced a conservation strategy to provide direction to better protect and recover the Bank Swallow in California, as well as benefit the many other species dependent on natural river systems.

To recover the Bank Swallow population in California, natural river processes will have to be restored on a significant portion of the Sacramento River and its tributaries. Many of the current flood management activities will have to be modified and replaced with more sustainable ones, and past habitat modification will have to be reversed. Spring and summer flow regimes that inundate or erode active colonies will have to be modified.

Specifically, the Bank Swallow Conservation Strategy recommends:

1. avoiding new impacts to river processes as well as to existing nesting habitat and colonies using current data; consulting with the California Department of Fish and Wildlife; maintaining appropriate construction buffers; using alternatives to bank stabilization; and maintaining non-impacting flow regimes during the nesting season.
2. protecting suitable habitat by acquiring permanent easements or fee-title to parcels with existing colonies and suitable nesting habitat; and reestablishing and reconnecting river floodplains.
3. restoring nesting habitat and river processes on the Sacramento and Feather Rivers by removing 53 miles of revetment and restoring 12,000 acres of floodplain by 2050; and managing flow regimes to improve floodplain connectivity and reduce inundation impacts to nesting Bank Swallows.
4. mitigating unavoidable impacts to Bank Swallow habitat and river processes by removing revetment from potential nesting habitat at a 2:1 ratio, and conserving existing nesting habitat at a 1:1 ratio for impacts to suitable nesting habitat; removing revetment from potential nesting habitat at a 1:1 ratio, and conserving existing nesting habitat at a 1:1 ratio for impacts to nesting habitat that is not currently suitable; and mitigating for flows that inundate Bank Swallow nests during the nesting season.

In addition to improving conditions for Bank Swallows, these actions will protect and restore natural river processes that contribute to the ecosystem services that our rivers provide: nutrient transport, fish and wildlife habitat, water quality, and flood protection. Stewardship of the Bank Swallow is one step toward managing our floodplains and rivers in a way that provides benefits for people and wildlife.

INTRODUCTION

Bank Swallows nest on vertical, or near-vertical, banks and bluffs in areas along rivers, lakes, and oceans (Fig. 1). Although comprehensive surveys are lacking, available information suggests that 70 - 90% of the current known Bank Swallow population in California nests in colonies along the Sacramento and Feather Rivers (Laymon et al., 1988; BANS-TAC, unpublished data). Because most colonies are located on eroding river banks, presence of this species in sustainable numbers is an indicator of the healthy riparian ecosystem that results from a river's lateral migration within its floodplain. The combination of hydrology, erosion, sediment deposition, river migration, and ecological disturbance and succession result in the physical and biological environment that provides essential habitat for the Bank Swallow and many other plants and animals along California's rivers.

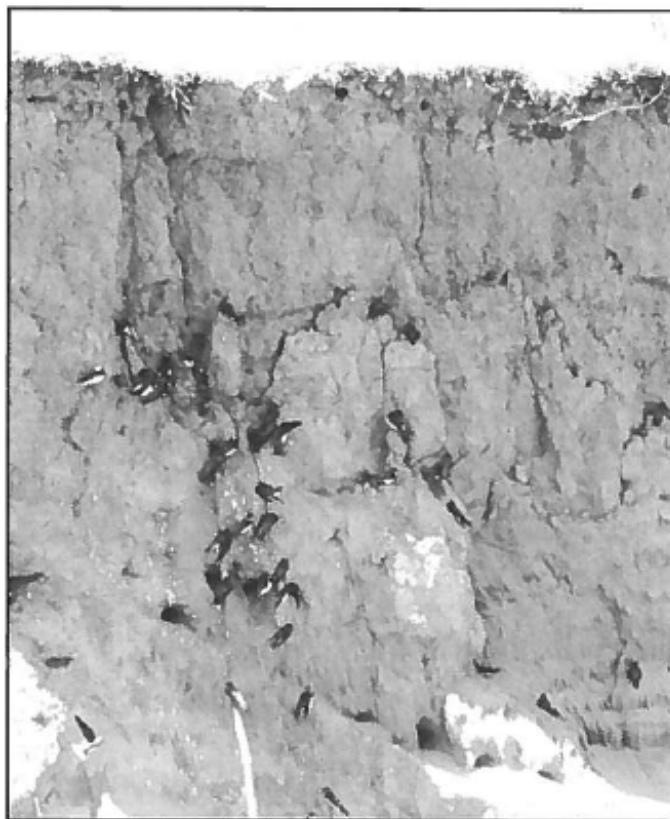


Figure 1: Bank Swallow colony. Photo by Danika Tsao (CDWR) 2011

In 1989 the Bank Swallow (*Riparia riparia*) was State-listed as Threatened. Despite the listing and subsequent adoption of the Recovery Plan (CDFG, 1992), which afforded the species additional legal protections, the Bank Swallow population on the Sacramento River has continued to decline and remains vulnerable to ongoing bank stabilization and flood control projects. This vulnerability was illustrated in 2007 when State and federal flood control agencies placed rock revetment on nearly a mile of eroding bank on the Sacramento River. This project covered a Bank Swallow colony site with eight years of surveyed nesting activity and over 4000 burrows, one of the largest in California.

The Bank Swallow Technical Advisory Committee was formed in response to this event. The BANS-TAC is a diverse coalition of State and federal agency, non-governmental organizations, and university personnel dedicated to the conservation of Bank Swallow

populations in California. The BANS-TAC's mission is to promote collaborative long-term conservation and recovery of the Bank Swallow along the Sacramento River, its tributaries, and other areas throughout California by coordinating and supporting monitoring and research, habitat restoration and management, and outreach and education. To that end, the BANS-TAC has produced a conservation strategy to provide direction to better protect and recover the Bank Swallow in California, as well as benefit the many other species dependant on natural river systems (www.sacramentoriver.org/bans).

This conservation strategy is based on the species needs and is intended to guide the preservation, protection, and restoration of habitat and natural river processes that support Bank Swallow populations in California.

Specifically, the strategy is intended to provide flood management and regulatory agencies, conservation organizations, and private landowners with measurable conservation objectives for the species. Focusing on the Sacramento River and its tributaries, this strategy describes:

1. the natural history and ecology of Bank Swallows
2. the status and trends of Bank Swallow populations
3. threats to Bank Swallow populations
4. recommendations for conservation actions to help the population recover

Natural River Processes

Natural water flows, or hydrographs, are highly seasonal and influenced by storm events in the Sacramento Valley and snow melt in the surrounding mountains. Historically, Sacramento River flows were naturally low in the fall, and increased in the winter due to precipitation. Spring and summer snowmelt resulted in a spring peak and long tapering decline in flows into the summer, the amount and duration depending on snowpack.

Alluvial rivers naturally move, or migrate, due to erosion on the outside banks of channel bends and sediment deposition on the inside of the bends creating point bars (Fig. 2). As a result of these dynamic river processes, meander bends move through time, both downstream and cross-stream. The lateral extent of the river's migration is

called the meander belt. Movement of the river channel within the meander belt is driven by high flow events that cause the collapse and resurfacing of banks.

Flooding and bank erosion are vital processes of the river ecosystem for Bank Swallows. Bank erosion creates the near-vertical banks the swallows rely on for nesting. In the absence of bank erosion, over-steep banks collapse and become covered with vegetation, making them unsuitable for Bank Swallow nesting (Garrison, 1999). These river processes and the riparian (river-associated) ecosystem are also important to many other species (Golet et al, 2003; Stillwater Sciences, 2007).

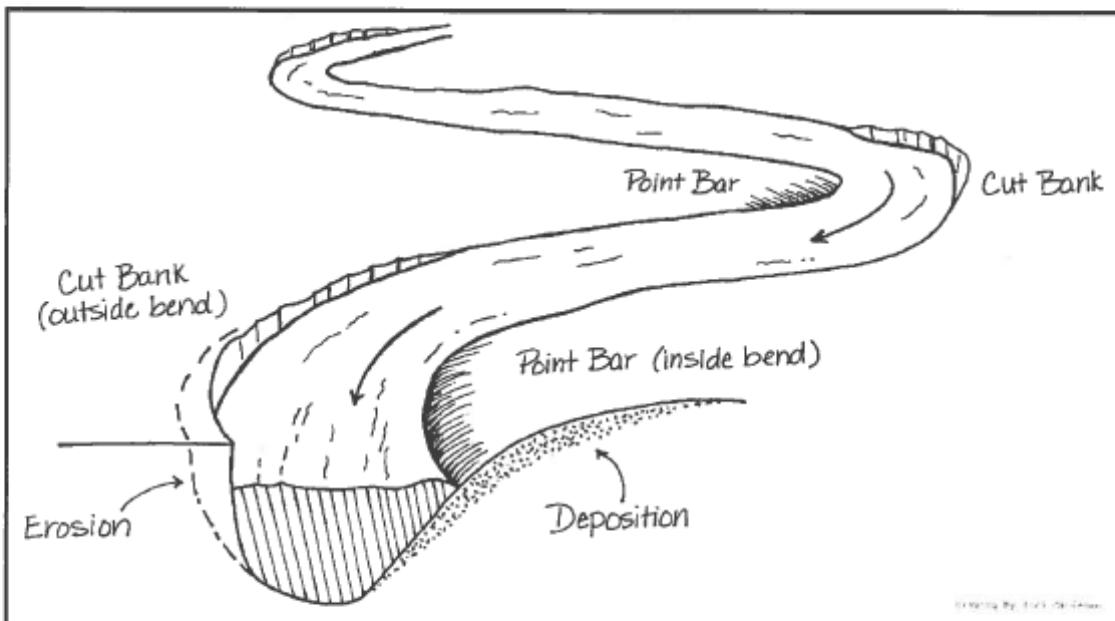


Figure 2: Typical bend on a meandering river (Toni Cardenas, SRCAF Handbook, 2003)

GLOSSARY

Adjacent levee - levee constructed on the landward side of an existing levee. The existing levee is allowed to erode and fail over time, resulting in the river eventually re-occupying a portion of its floodplain.

Bank protection - material (usually rock revetment) is placed on a river bank to prevent erosion on adjacent land. Also **bank stabilization, revetment, rock revetment, rip-rap.**

Brood - number of young produced from a clutch per adult Bank Swallow pair.

Burrow occupancy rate - a constant applied to burrow count numbers to account for the fact that not all burrows are occupied by nesting Bank Swallows. Published rates differ and the rate may change during a season.

Colony - a group of birds nesting together in close association. A Bank Swallow colony is identified as a cluster of burrows in bare or nearly bare cut banks.

Colony persistence - length of time a Bank Swallow colony is in use.

Conservation easement- Legally binding restrictions voluntarily placed on property by the owner that constrains the rights of present and future owners; these restrictions limit certain rights and uses of the property for conservation, preservation, or restoration purposes (California Civil Code Section 815)

Clutch size - the number of eggs laid by a female bird in one nesting attempt. The average Bank Swallow clutch is 3 to 5 eggs.

Cut bank - a steep, bare slope formed by erosion on the outside of a stream bend due to lateral migration, or meander, of a stream. Also **vertical bank, natural bank.**

Double-clutching - nesting pair produces two or more sets of eggs, which may result in the production of multiple sets of young, although all sets of eggs may fail.

Floodplain - the relatively flat area adjacent to a river that experiences flooding during periods of high discharge. Also **connected floodplain.**

Geologic control - various substrates that are resistant to erosion; natural hard points that stop lateral migration of the river.

Habitat - refers to the vertical, or near-vertical, river banks with friable soils formed by erosion preferred by Bank Swallows for burrow excavation. Nesting habitat is created and maintained by erosion and sediment deposition, river migration, and ecological disturbance and succession. **Suitable habitat or potential habitat** includes sites that

have the proper physical features (mixed alluvium within the meander belt) but may not be currently occupied by a Bank Swallow colony.

Hard point - a structure located adjacent to a river that changes the direction or rate of channel migration by interfering with the rivers movement. Examples include buildings, bridges, and levees. A **natural hard point** may be formed in areas with erosion resistant soils, or geologic control.

Hydrograph - a graph showing discharge (rate of flow) over time at specific place on a river. Historically, Sacramento River flows were low in the fall and increased in the winter due to precipitation. Spring and summer snowmelt resulted in a spring peak and long tapering decline in flows into the summer, the amount and duration depending on snowpack.

Lateral migration - the lateral movement of a river channel as it adjusts to balance erosion with deposition. Also **channel migration**.

Levee - a natural or constructed ridge or wall which regulates water levels. Artificial levees are designed to prevent flooding of the surrounding land and slow natural course changes of a waterway.

Meander - the bend or curve in a river or stream channel. Also refers to the migration of the river or stream channel.

Meander belt - the average meander width of a river measured from outer bend to outer bend; the lateral extent of a river's migration on its floodplain. For the Sacramento River, the historic meander belt is often referred to as where the river has been since 1896, the first available maps of the channel. Also **one-hundred-year meander belt**.

Meander potential - the potential for a channel to migrate laterally, based on suitable soils.

Mitigation - an action designed to avoid, minimize, reduce, or compensate for a significant impact to the environment. Acceptable mitigation for impacts to Bank Swallow habitat or potential habitat, such as placement of rock revetment or sloping a cut bank, includes removal of rock from suitable habitat elsewhere on the river.

Restoration - the return of an altered ecological system to a stable, healthy, sustainable approximation of its former unimpaired condition.

Revetment - a sloping surface of stone, concrete, or other material placed on a river bank in such a way as to absorb the energy of incoming water, thereby protecting the bank from erosion. Also **bank stabilization, bank protection, rock revetment, rip-rap**.

Revetment removal - the removal of rock or other bank stabilization material from a river bank to restore natural river processes. Also **rock removal**.

Riparian - living or located on the banks of a stream or river, such as riparian woodland or riparian vegetation. Also **riverine**.

Rip-rap alternative - bank stabilization alternatives that do not include using rock. Examples may include bioengineering (planting vegetation and natural features to reduce bank erosion) or set-back levees.

River mile - the distance in miles along a river measured from its confluence with the San Joaquin River. This conservation strategy references river miles on the Sacramento River as published in the U.S. Army Corps of Engineers' "Sacramento River, Sloughs, and Tributaries, California 1991 Aerial Atlas, Collinsville to Shasta Dam." These river miles may no longer be on the main channel due to **meander**.

River processes - the processes associated with rivers and streams include erosion, transportation, and deposition of sediment. Rivers naturally move, or migrate, due to erosion on the outside banks of channel bends and sediment deposition on the inside of the bends, creating point bars. As a result, meander bends of a river are not static but move through time, both downstream and cross-stream. Also **dynamic river processes**, **natural river processes**, **geomorphic processes**, **fluvial processes**.

Setback levees - levees constructed at some distance from the river channel in order to allow the river to occupy a portion of its floodplain; these levees are usually smaller in size than levees placed immediately adjacent to the river channel.

Sustainable population size - the minimum population size that allows a species to persist in the face of environmental uncertainty. For Bank Swallows that live in ephemeral habitats, a minimum number of 25000 breeding pairs guards against events such as breeding failure due to bank collapse, and stochastic events.

Take - to hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. (FGC §86). Take is regulated by agencies such as California Department of Fish and Wildlife and U.S. Fish and Wildlife Service.

BANK SWALLOW NATURAL HISTORY AND ECOLOGY

Species Description

The Bank Swallow (Fig. 3) is the smallest North American swallow with a weight of about 13.5 grams. They are approximately 13 centimeters in length, with a wing span of 33 centimeters (Brinkley, 2007). The sexes appear similar and are distinguished only by the presence of a brood patch or cloacal protuberance (Garrison, 1999). Adult Bank Swallows have a grayish brown mantle, rump and wing coverts, and a brown tail. They have a distinct brown breast band contrasting with the white chin and belly (Garrison, 1999).



Figure 3: Adult Bank Swallow pair. Photo by Jim Dunn, 2009.

Distribution

Bank Swallows are migratory birds that breed in North America, Europe, and Asia, and winter in Central and South America and Africa (Garrison, 1999). The California populations winter in Central and South America, and currently breed in the northern and central regions of the state (Fig. 4). Despite their extensive range, Bank Swallow

breeding colonies are patchy, occurring only in areas where appropriate habitat exists (Grinnell and Miller, 1944). As a result, although there are nesting colonies scattered across Northern California, 70 - 90% of the California Bank Swallow population occurs along the Sacramento River and its tributaries (Humphrey and Garrison, 1986; Garrison et al, 1987; CDFG, 1992;).

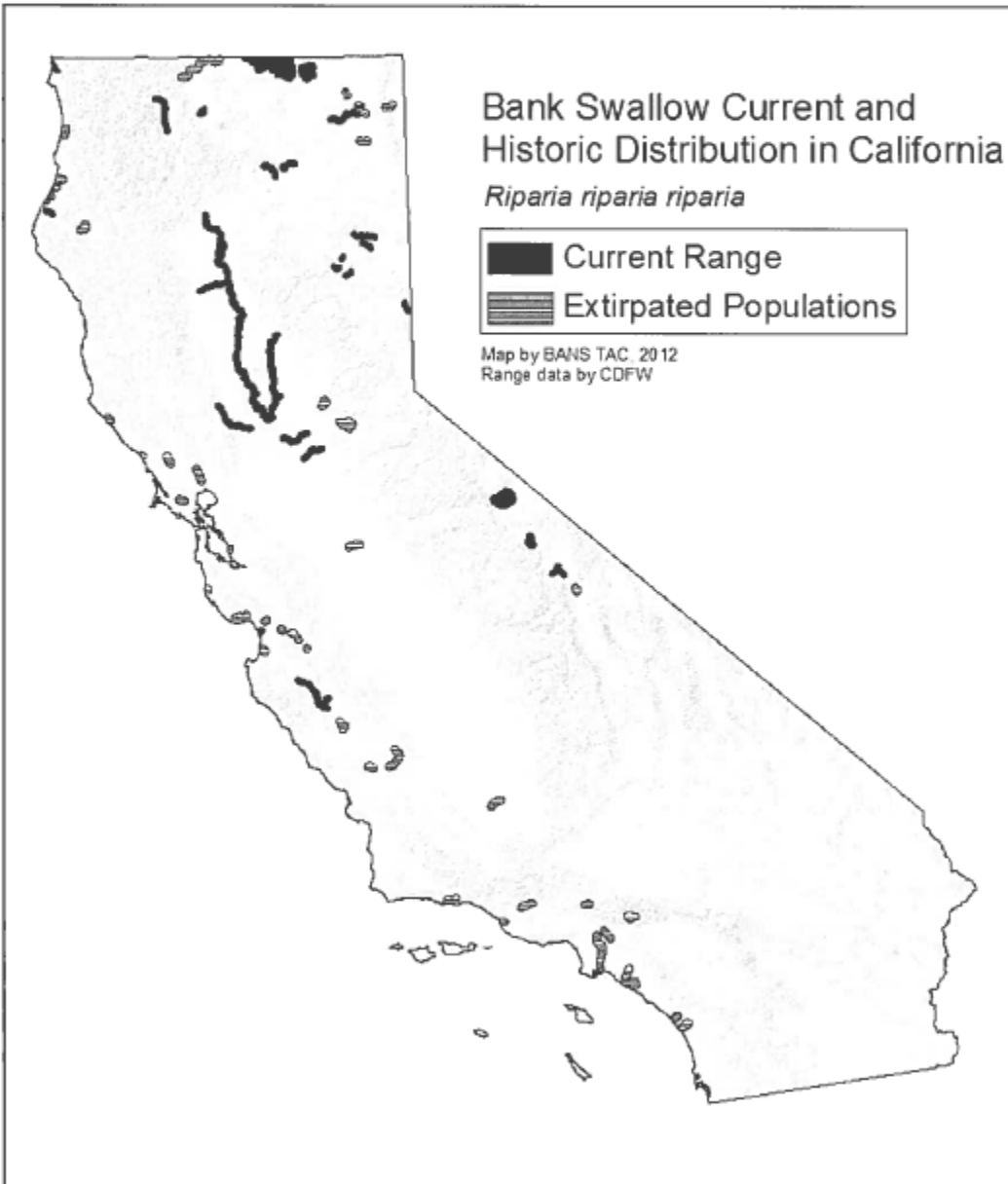


Figure 4. Current Bank Swallow Breeding Distribution and Extirpated Populations in California.

Reproduction

Bank Swallows arrive in California each spring as early as March to nest; they seek suitable colony locations, excavate burrows, and form pairs. Males excavate burrows prior to pairing, and nests are built in the burrows using materials gathered from the ground, and pieces of roots from exposed banks (Fig. 5).

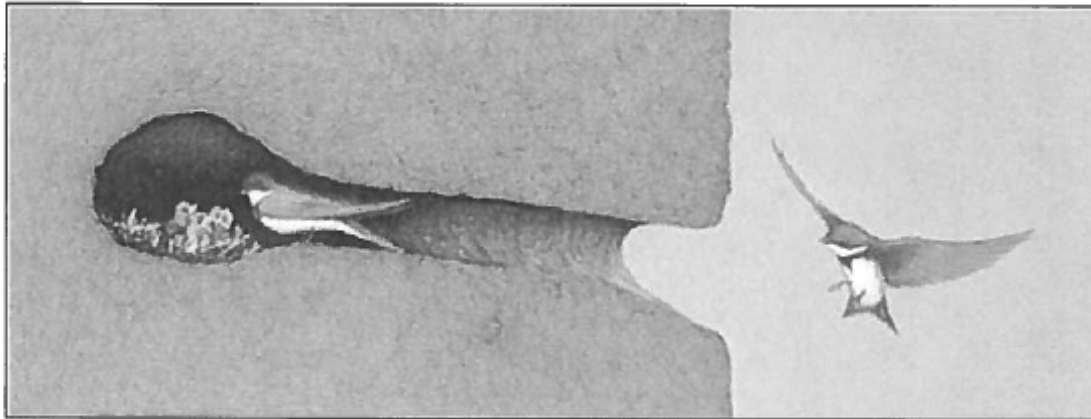


Figure 5: Artist rendition of Bank Swallow burrow and nest structure. Typical burrows can be as much as 3 feet deep. Figure by permission from Tim Gunther, www.gunthergraphics.biz.

Bank Swallows typically lay 3 to 5 eggs, with peak egg-laying occurring between mid-April and mid-May. Most juveniles (Fig. 6) fledge by mid-July. Bank Swallows are thought to produce only one brood per season in California (Garrison, 1999), although some studies suggest Bank Swallows may have two broods in a given season (Stoner, 1925; Wright, 2011). Mortality and survivorship of young have not been extensively studied in North America, but average mortality of hatch-year Sand Martins (Bank Swallows) in Great Britain based on mark-recapture studies was 77–80% (Hardwood and Harrison, 1977; Cowley, 1979).



Figure 6. Juvenile Bank Swallows in Burrow. Note the brown chest band. Photo by Ryan Martin (CDWR), 2009

Nesting Colonies and Habitat

Bank Swallows in California nest in colonies ranging in size from 3 to over 3,000 nest burrows. On the Sacramento River, 70% of colonies consist of 10 to 340 burrows (Schlorff, 1997; Garcia, 2009).

Bank Swallows establish colonies along eroded, vertical banks within river systems with friable alluvial soils (Fig. 7) (Garrison et al., 1987). Dynamic river processes create these conditions as rivers meander and expose fresh soil. In coastal areas and lakes, wave action erodes banks or bluffs to create vertical faces.



Figure 7. Active Bank Swallow Colony on the middle Sacramento River. Photo by Scott McReynolds (CDWR), 2012.

Burrows are often destroyed by erosional processes from year to year, exposing fresh banks that are used by the swallows. Due to the ephemeral nature of their nesting habitat, individual Bank Swallows have relatively low fidelity to a particular nest site (Freer, 1979); however, colonies may persist in a given area for many years, as long as appropriate soil characteristics and vertical bank profile remain available. The regular resurfacing of this habitat may be beneficial to Bank Swallow populations by reducing parasite loads (Garrison and McKernan, 1994; Garrison, 1999; Moffatt et al., 2005), as

ectoparasites may reduce their reproductive success (Szep and Møller, 1999). Such resurfacing may also help reduce nest predation risk since older banks can become too accessible to predators due to minor bank sloughing or vegetation encroachment (Garrison et al, 1989; Garrison, 1998).

Additionally, riparian over-bank vegetation appears to be an important feature for Bank Swallows on the Sacramento River, perhaps for burrowing, foraging, or both. In an analysis of data from a 10 year survey period colonies were more strongly associated with native riparian habitats, including herbaceous cover, scrub, and forest, than with orchard crops (Garcia, 2009).

Bank Swallow nesting colonies are also found in artificial sites, including sand quarries (Fig. 8) and road cuts, where resurfacing occurs during mechanical removal of materials, but these are uncommon (Garrison, 1999). These off-river sites are not well documented although there are California records from Siskiyou, Shasta, Lassen, Plumas, San Joaquin, and Inyo counties (pers. comm. D Garcia, 2008).



Figure 8. Bank Swallow burrows in sand mine (in shadow, right-center), Shasta County. Photo by Tricia Bratcher (CDFW), 2011.

From 1987 to 1989, eight experimental nesting sites were constructed along the Sacramento River to evaluate the effectiveness and feasibility of created habitat to compensate for losses of natural Bank Swallow nesting habitat (CDFG, 1992; Garrison, 1991). Five of the eight locations were natural river banks "enhanced" by reshaping the bank to expose vertical faces and fresh soils. The other three locations were "artificial"

sites constructed with soil mounds landward of the rip-rap above the bank. Although the enhanced sites were used by Bank Swallows, they required annual maintenance; use by the birds ended once maintenance stopped. The artificial sites lacked the needed characteristics of natural Bank Swallow nest sites and were not well used. Those that were used showed high levels of predation by herons and egrets (Garrison, 1991). Because of these factors, Garrison (1991) recommended that artificial nesting sites not be used to mitigate for losses of natural Bank Swallow nesting habitat.

Relationship of Burrow Numbers to Number of Nesting Pairs

The number of nesting pairs of Bank Swallows is difficult to assess directly. It is not possible to derive the number of nesting pairs by counting active burrows, or by counting the number of burrows used in a season. Not all birds within an active colony nest at the same time, some males construct nest burrows but do not attract a mate and abandon them, and there is evidence that some pairs may produce more than one brood per season. For that reason, raw burrow counts are currently the best index of Bank Swallow numbers and are used in this document for that purpose. During surveys, burrows that have specific characteristics indicative of recent use are counted as surveyors pass in boats.

Occupancy rates, percent of burrows actually used for nesting that season, have been calculated for some raw burrow counts. Under close inspection, burrows that show signs of use, such as eggs, shells, nest material, incubating or brooding swallows, or young are deemed occupied. Calculated occupancy rates have ranged from 31.6 - 63% in studies conducted on the Sacramento River (Garrison et al., 1987; Garrison et al., 1989; Garrison, 1991; Wright et al., 2011). The BANS-TAC compared the studies that include occupancy rates, and has adopted a rate of 50% to convert raw burrow counts to a rough estimate of nesting pairs. Thus, the 15,000 burrows counted on the middle Sacramento River in 2012 would represent 7,500 nesting pairs.

Diet and Foraging Habitat

Bank Swallows usually forage in flight, both individually and in flocks, consuming mainly flying or jumping insects (Beal, 1918; Turner and Rose, 1989; Garrison, 1999). When feeding nestlings, birds are commonly observed foraging within 50-200 meters of nesting colonies (Garrison, 1998). Foraging habitat includes wetlands, open water, grasslands, riparian woodland, orchards, agricultural fields, shrub lands, and upland woodlands (Stoner, 1936; Gross, 1942; Freer, 1977; Turner and Rose, 1989; Garrison, 1999).

Wintering Habitat

Little information exists regarding Bank Swallow wintering habitat. Bank Swallows have been recorded in grassland, savanna, open agricultural areas, and freshwater and brackish wetlands in Central and South America (Garrison, 1999).

BANK SWALLOW STATUS

Historic Distribution

Bank Swallows historically bred throughout lowland California (Grinnell and Miller, 1944), including coastal sites from Santa Barbara County south to San Diego County. In 1987, only four colonies were found south of San Francisco Bay (Laymon et al., 1988). At that time, the Sacramento River and Feather River populations were thought to comprise about 64 percent of the colonies and 70 percent of the California population. The remaining population was thought to be concentrated in the Klamath Basin and Modoc County areas of northeastern California.

Legal Status and Recovery Goals

In March 1989, the California Fish and Game Commission listed the Bank Swallow as a Threatened species under the California Endangered Species Act (CESA). CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate mitigation planning to offset project caused losses of listed species populations and their essential habitats.

In 1992, the California Department of Fish and Wildlife (CDFW) (formerly CDFG) published a recovery plan for the species (CDFG 1992: http://www.dfg.ca.gov/wildlife/nongame/publications/bm_research/docs/93_02.pdf).

The recovery plan states that "While it is not expected that the Bank Swallow population can be fully restored to its former abundance and distribution, stabilizing the population at a level that ensures long-term viability is a reasonable and achievable goal." The plan did not, however, give a specific population target for recovery.

The Recovery Plan identifies numerous actions needed to protect the Bank Swallow, including avoiding impacts through use of alternatives to bank stabilization and mitigating impacts from bank stabilization projects; preserving major portions of the remaining Bank Swallow habitat in California; identifying and obtaining appropriate preserve lands; and using set-back levees reestablishing river meander-belts. Few of the recommendations included in the Recovery Plan were implemented to a significant degree.

The Bank Swallow is not listed under the federal Endangered Species Act (ESA); however, it is protected by the Migratory Bird Treaty Act, the Fish and Wildlife Coordination Act, and under the California Environmental Quality Act.

The Migratory Bird Treaty Act (MBTA) was implemented in 1918 for the protection of migratory birds between the U.S. and Great Britain (on behalf of Canada). Later amendments implemented treaties between the U.S. and Mexico, Japan, and Russia.

The MBTA makes it illegal to take or possess any migratory bird or parts, nests, or eggs, of such a bird except under the terms of a valid permit issued pursuant to Federal regulations.

The Fish and Wildlife Coordination Act (FWCA) of the United States was enacted in 1934 to protect fish and wildlife when federal actions result in the control or modification of a natural stream or body of water. The Act provides the basic authority for involvement of the United States Fish and Wildlife Service (USFWS) in evaluating impacts to fish and wildlife from proposed water resource development projects. The Act's purpose is to recognize the vital contribution of U.S. wildlife resources, and their increasing public interest and significance. FWCA requires that wildlife conservation be given equal consideration to other features of water-resource development programs through planning, development, maintenance and coordination of wildlife conservation and rehabilitation.

The California Environmental Quality Act (CEQA) was passed in 1970 to implement a statewide policy of environmental protection. CEQA applies to all discretionary projects proposed to be conducted or approved by a California public agency, including private projects requiring discretionary government approval (California Public Resources Code, Sections 21000 - 21178, and Title 14 CCR, Section 753, and Chapter 3, Sections 15000 - 15387). Under CEQA, analysis of project impacts to all aspects of the environment, including sensitive species and their habitats, is required. Due to their threatened status under CESA and declining population, disturbance to Bank Swallows or their habitat could be a significant impact. Any project with potential impacts to Bank Swallows or their habitat must comply with CEQA to identify and analyze the impacts and propose measures to reduce impacts to below a level of significance.

The National Environmental Policy Act of 1969 (NEPA) (P.L. 91-190; 83 Stat. 852; 42 U.S.C. 4321) was passed in December 1969 and signed into law on January 1, 1970. NEPA expanded environmental reviews and formally established environmental protection as a Federal policy. NEPA requires Federal agencies to consider the potential environmental consequences of their proposed action, and any reasonable alternatives. Major Federal actions significantly affecting the environment require consultation with other Federal agencies having jurisdiction or expertise regarding the environmental effects of proposed actions. Federal agencies are directed to cooperate in fulfilling the requirements of state and local laws and ordinances where those requirements are in addition to, but not in conflict with, Federal requirements.

POPULATION TRENDS SINCE PROTECTION

Sacramento River

Since 1986 the CDFW (in partnership with the USFWS since 1999) has conducted annual surveys along the Sacramento River between Red Bluff and Colusa (middle Sacramento River) (Fig. 9) (Laymon et al., 1988; Schlorff, 1997; Hight, 2000; Garcia et al., 2008; Wright et al., 2011). At the time of CESA listing in 1989, the burrow count based on the 1986 survey was approximately 25,000. Through most of the 1990s burrow counts, and the corresponding estimate of Bank Swallow pairs, consistently declined, reaching a low of 9250 burrows in 1995. Since 1998, the number of burrows has fluctuated between 10,000 and 19,000 (Schlorff, 2000). The most recent estimate (2012) was of 15,000 burrows.

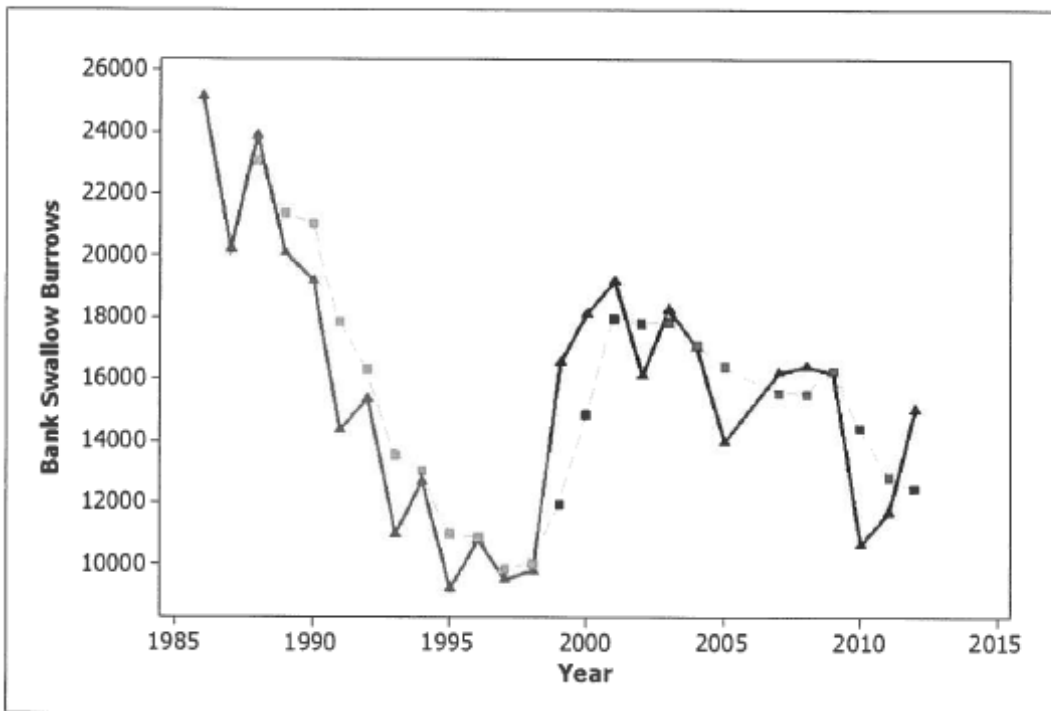


Figure 9. Bank Swallow burrow counts reported for the Sacramento River between Red Bluff and Colusa (100 river miles), from interagency survey efforts (1986-2012). Annual counts are shown in black, 3 year moving average in red. Data within the gray shaded area (1986-1998) were compiled from Hight (2000).

Feather River

In 1987, CDFW conducted a survey of the Feather River and obtained an estimate of 6,590 burrows (Laymon et al., 1988). In 2002 and 2003, the Department of Water Resources (DWR) surveyed the Feather River and obtained burrow estimates of 2,270 and 3,590, respectively. Since 2008, DWR has conducted annual surveys of the Feather River, counting a low of 1,830 burrows in 2010. The most recent estimate (2012) was 2,320 burrows (Fig. 10).

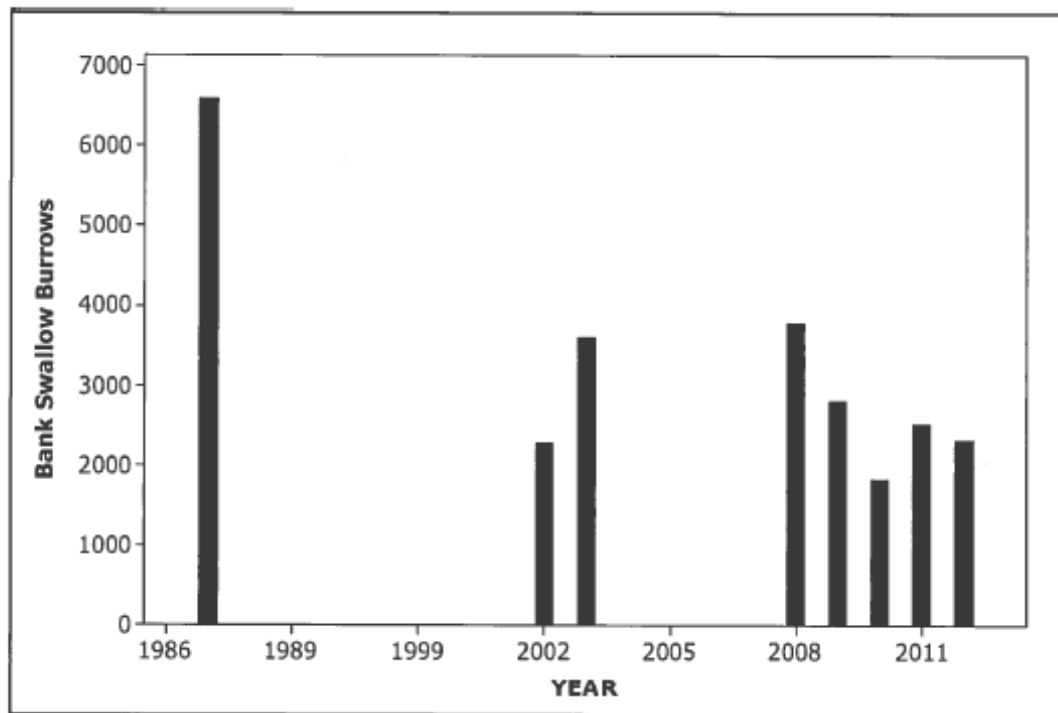


Figure 10. Bank Swallow burrow counts reported for the Feather River between the mouth and Thermolito Afterbay Outlet (59 river miles). DWR Annual surveys began in 2008. Surveys were not conducted in years without bars.

IMPACTS AND THREATS TO BANK SWALLOW POPULATIONS

On the Sacramento River and its tributaries, the most important overall threat to Bank Swallows has been the gradual loss of river processes that provide habitat for Bank Swallows and other wildlife. Bank Swallow populations have been impacted through direct mortality, as well as loss of suitable nesting and foraging habitat resulting from land conversion, bank stabilization, flood management activities, and water supply operations throughout California (Remsen, 1978; Humphrey and Garrison, 1987; CDFG, 1992; Schlorff, 1997).

Bank Stabilization

Projects that prevent lateral migration of the river channel through placement of rock revetment have significantly reduced the amount of available nesting habitat and altered the river processes that renew these habitat features (Garrison et al., 1987; Humphrey and Garrison, 1987; CDFG, 1992; Stillwater Sciences, 2007) (Fig. 11). In addition, erosion control projects constructed at active nesting sites during the breeding season have caused direct mortality to adult and nestling birds (Garrison, 1991; Schlorff, 1995; Garcia et. al., 2008).

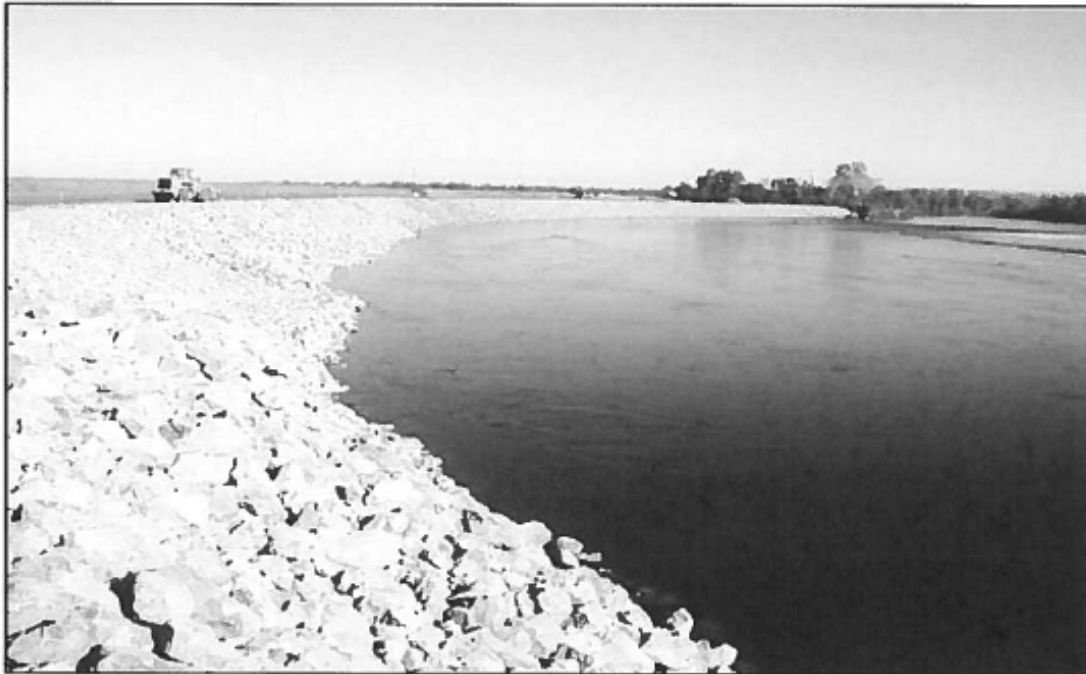


Figure 11. Agency revetment placed on an eroding bank on the middle Sacramento River under Executive Order S-01-06. Photo by Joe Silveira (USFWS), 2007.

The federal Flood Control Act of 1960 authorized the Sacramento River Bank Protection Project (SRBPP) to use bank stabilization actions to protect existing levees and flood control facilities of the Sacramento River Flood Control Project, in a partnership between the U.S. Army Corps of Engineers (USACE) and Central Valley Flood Protection Board (CVFPB). Between 1960 and 2007 the SRBPP was responsible for the installation of 320,000 linear feet (60.6 miles) of rock revetment along natural banks of the Sacramento River between Verona (River Mile 80) and Chico Landing (River Mile 194) (Table 1).

Table 1: Revetment, in linear feet, placed on the banks of the Sacramento River between Verona and Red Bluff, and the Feather River, from 1960 to present.

Project Name	Sacramento River			Feather River
	Verona to Colusa	Colusa to Chico Landing	Chico Landing to Red Bluff	
SRBPP, Phase 1	161,900	9,200		14,000
SRBPP, Phase 2	78,650	69,750		9,400
DWR Emergency 2005/06	3,800	6,200		
Chico Landing to Red Bluff			87,915	
Non-federal or State Revetment	162,660	37,700	63,685	40,600
Total (Linear Feet)	407,010	122,850	151,600	64,000

An additional 10,000 linear feet (1.9 miles) of revetment was placed in 2006, after the Governor's State of Emergency declaration, issuance of Executive Order S-01-06, and passage of AB 142 (Fig. 11). The federal Flood Control Act of 1958 and Water Resources Development Act of 1976 authorized the Sacramento River, Chico Landing to Red Bluff project and placed 88,000 linear feet (16.7 miles) of rock revetment between Chico Landing (River Mile 194) and Red Bluff (River Mile 245) (Table 1).

Installation of non-federal or State revetment by local maintaining agencies and private landowners proves difficult to quantify, but to date, an additional 264,000 linear feet (50 miles) of banks are known to have been impacted along the Sacramento River from Verona to Red Bluff (DWR unpublished data, 2012) (Table 1, Fig. 12).

These actions not only reduce the amount of Bank Swallow nesting habitat (Fig. 13), they also alter sediment transport and deposition, vegetation regeneration, and other natural river processes to the detriment of the entire riparian ecosystem, including special status species such as salmonids (USFWS, 2000; Stillwater Sciences, 2007).



Figure 12. Private revetment being placed on an eroding bank on the middle Sacramento River. Photo by Dave Forwalter (DWR, Northern Region Office), 2007.

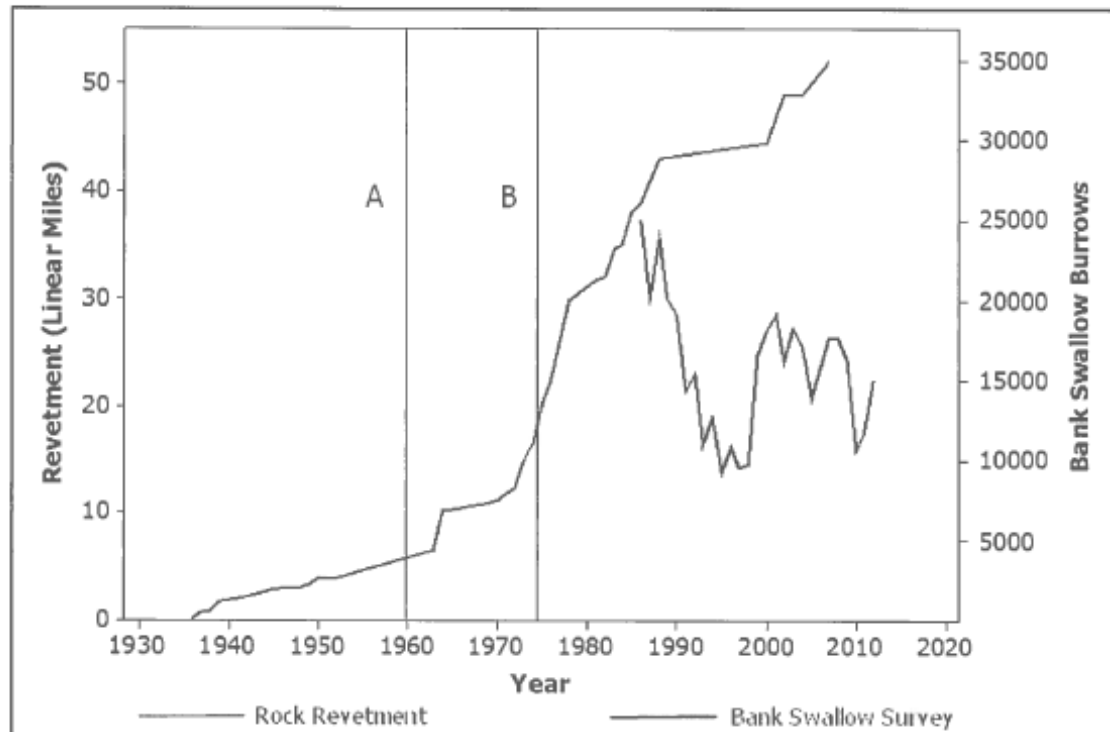


Figure 13. Cumulative length of rock revetment placed on the middle Sacramento River between Red Bluff and Colusa (approximately 100 miles of river) from 1935-present and Bank Swallow burrow counts, beginning in 1986. Vertical line A - Initial authorization of SRBPP, Phase 1, 1960, Vertical line B - Authorization of SRBPP, Phase 2, 1974.

The findings of Girvetz (2010) indicate that river process restoration through removal of bank stabilization on the Sacramento River has the potential to significantly benefit Bank Swallow population viability.

Changes in River Flows

As described earlier (*"Natural River Processes"*, Page 4), Bank Swallows rely on ephemeral nesting habitat created and maintained by dynamic river processes. Progressive channel migration and associated bank erosion during winter and early spring high flow events renews nesting habitat and is beneficial to Bank Swallows. In general, bankfull flows are necessary to promote more natural levels of channel migration and bank erosion, although lower flows can also contribute to maintaining these beneficial natural river processes. However, high flows during the late spring and summer nesting season may be detrimental to Bank Swallows due to direct inundation of burrows or loss of nests caused by localized bank sloughing. Burrows have been documented near the water line during the breeding season and are frequently found 3.3 feet above the waterline on the Sacramento River and 1.6 feet above the water line on the Feather River (BANS-TAC, unpublished data).

Dam operations have greatly altered the timing, magnitude, duration, and frequency of winter high flow events on the Sacramento River (Fig. 14), and the Feather River. Since

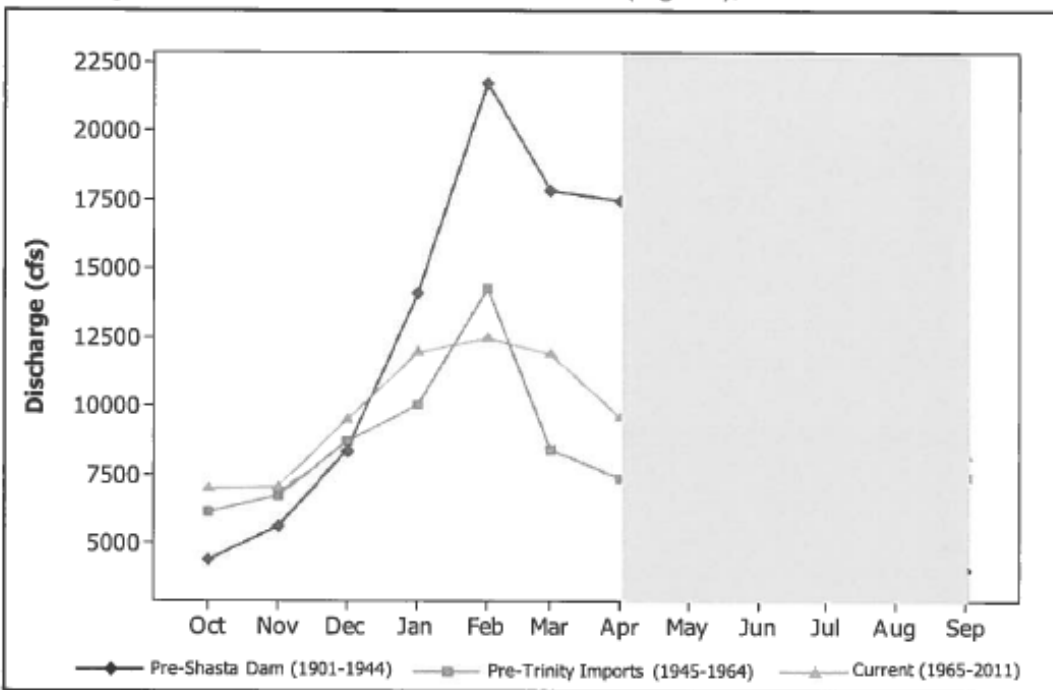


Figure 14. Monthly median flows in the Sacramento River at Bend Bridge, River Mile 258 (USGS Gage 11377100). Shaded bar indicates period of Bank Swallow nesting on the river.

the construction of Shasta and Oroville dams, winter and spring flows have been reduced while summer and fall flows have been increased above natural levels to accommodate water delivery schedules and agricultural and environmental water needs.

Dampened winter and spring flows result in habitat degradation due to reduced bank erosion. When banks are not regularly eroded by high flows, minor bank sloughing can reduce bank slope and create debris piles at the base of the bank. This can lead to vegetation growth which makes banks unsuitable for nesting and provide access for predators to reach nest burrows. Further, high populations of ectoparasites may build up in nests over time, reducing nest success and leading to abandonment of nests or colonies that are not renewed by erosion (Hoogland and Sherman, 1976).

In some instances, dam releases result in unnaturally late high-flow events on the Sacramento and Feather rivers, which can adversely affect Bank Swallow colonies if they occur during the breeding season (April 1-August 31). For example, breeding season flows in the range of 14,000 to 30,000 cfs on the Sacramento River have been associated with localized bank collapse events that resulted in partial or complete colony failure (Stillwater Sciences, 2007). Flows over 50,000 cfs on the Sacramento River can cause extensive bank erosion which is beneficial during the non-breeding season but likely to lead to the loss of multiple colonies if such flows occur during the breeding season (Stillwater Sciences, 2007). Additionally, high flows that cause large increases in river stage (water surface elevation) during breeding season may inundate nests and cause direct mortality of Bank Swallows (Stillwater Sciences, 2007; Joe Silviera, pers. comm.).

Loss of Foraging Habitat

The loss of natural land cover (riparian, grassland, and wetlands) adjacent to waterways and nesting sites throughout the Central Valley has likely impacted Bank Swallow populations through the reduction of food resources; however, the magnitude of this impact remains difficult to quantify (Moffatt et al, 2005).

Ongoing and Future Impacts

Bank Swallow populations continue to be threatened by river and flood management activities, reservoir releases, and conversion of remaining natural land cover. The primary concern is the immediately planned flood projects that include: Central Valley Flood Protection Plan (CVFPP), DWR's Small Erosion Repair Program (SERP) which includes up to 75,000 linear feet of bank stabilization along the Sacramento River, and the SRBPP Phase II authorization to place an additional 80,000 linear feet of bank

stabilization along the Sacramento River. These bank stabilization programs, planned for the next five years on the Sacramento River will result in the loss of more than 29 miles of eroding banks, habitat important for the recovery of the Bank Swallow. In addition to agency projects, unauthorized stabilization of eroding river banks continues on private lands throughout the Bank Swallows range (Fig. 13).

There has been a recent trend to mitigate for these projects onsite to enhance shaded riverine aquatic habitat for fish, specifically salmonids, by sloping and vegetating eroding banks. Proposed mitigation-banking projects include decreasing the slope of cut banks or stabilizing banks for fish habitat. Both mitigation practices fail to recognize the needs of the Bank Swallow as they are single species focused, do not restore river processes, and potentially impair Bank Swallow recovery through the loss of dynamic eroding banks.

In the long term, continued human population growth in California, increasing water demand, and climate change also pose serious threats to Bank Swallows.

RECOMMENDED CONSERVATION ACTIONS

The primary causes of the Bank Swallow population decline are permanent and semi-permanent loss of nesting habitat (eroding banks) from bank armoring and unnatural river flows that inundate and destroy active nest sites. Virtually all of these changes to the river system have occurred in the last 75 years, and most of these impacts have gone, and continue to go, unmitigated even though the standard mitigation ratio for loss of riparian and wetland habitat is 3:1. Because the Bank Swallow population has continued to decline since its CESA listing, it is obvious that an effective recovery plan or conservation strategy for the Bank Swallow must include mitigation and conservation activities that not only offset current impacts to the species habitat, but reverse the impacts that have already occurred.

The overall goal of this conservation strategy is to promote restoration of natural river processes on a sufficient portion of the Sacramento River and its tributaries to maintain and create habitat that will support a Bank Swallow population of at least 25,000 pairs (double the estimated population size at the time of proposed listing) based on a burrow count of at least 50,000. To achieve this goal, we propose that by 2050, State and federal agencies 1) remove 56 miles of river bank revetment, 2) use set back levees and conservation easements to increase the meander belt by 12,000 acres, and 3) modify flow regimes that create river processes to maintain and improve Bank Swallow habitat.

Specifically, we propose four conservation objectives:

1. Avoid impacts to individuals, colonies, current and potential habitat, and river processes;
2. Protect individuals, colonies, current and potential habitat, and river processes;
3. Restore habitat and river processes;
4. Mitigate unavoidable impacts to individuals, colonies, current and potential habitat, and river processes.

The goals and recommendations outlined here are based on our current knowledge of river processes and Bank Swallow ecology and can be reviewed and modified as new information becomes available.

Avoid Impacts to Individuals, Colonies, Current and Potential Habitat and River Processes

Project proponents should avoid impacts to Bank Swallows (individuals, colonies, and current and potential habitat), river processes, and natural banks. This applies to activities year-round, whether Bank Swallows are present or not. Because river meander modifies, refreshes, and exposes nesting habitat over time, installation of revetment should be avoided in any areas with suitable soils for nesting. High flow events may cause nesting failure from burrow collapse and inundation during Bank Swallow breeding season (April 1 – August 31). Where proposed water management or land-use projects would impact Bank Swallows or river processes, alternatives such as setback levees and acquisition of easements or fee title can be used to avoid those impacts. We recommend the following to avoid impacts to Bank Swallow individuals, colonies, habitat, and dynamic river processes:

Goal 1: No impacts to individuals, colonies, and habitat

Recommendations:

- 1.1 Identify all potential impacts to individuals, colonies, and habitat associated with a project. Use CNDDDB, BIOS, and the BANS-TAC website for the most up-to-date information of colony locations (<http://www.sacramentoriver.org/bans>).
- 1.2 Consult with CDFW when planning projects within the floodplain of the Sacramento River and its tributaries to ensure projects do not impact colonies or current or potential habitat.
- 1.3 Maintain a construction buffer of 200 feet or more from active colonies, depending on project activities, and use biological monitors to ensure no disturbance to Bank Swallows during the breeding season (April 1 - August 31).
- 1.4 Develop flow criteria that avoid impacts of high water flows, by limiting frequency and duration of peak flows over 14,000 cfs (Sacramento River), or rapid draw-downs to nesting Bank Swallows during the breeding season (April 1 - August 31); this includes considering downstream tributary flows when timing dam releases.

Goal 2: No impacts to river processes

Recommendations:

- 2.1 Use alternatives to bank stabilization that preserve dynamic river processes, such as setback and adjacent levees.
- 2.2 Maintain flow regimes during the non-breeding season (September 1 - March 31) that promote natural river processes and create Bank Swallow habitat.

Protect Existing Colonies, Suitable Habitat, and River Processes

Agencies, non-governmental organizations, and private landowners should protect existing colonies, suitable habitat, and river processes by acquiring property or easements. Priority should be given to properties with the highest value to Bank Swallows, with consideration to the risk of habitat loss. This document and CDFW, USFWS, and the BANS-TAC can provide information to assist with determining priority. We recommend the following to protect suitable Bank Swallow habitat, existing colonies, and river process:

Goal 3: Protect Existing Bank Swallow Colonies and Lands with Banks Suitable for Bank Swallow Nesting.

Recommendations:

- 3.1 Develop protection priorities and risk analysis for Bank Swallow colonies and lands with banks suitable for Bank Swallow nesting.
- 3.2 Acquire property or easements on private lands with Bank Swallow colonies and lands with banks suitable for Bank Swallow nesting.
- 3.3 Develop and promote incentives to private landowners to protect Bank Swallow colonies and lands with banks suitable for Bank Swallow nesting.

Goal 4: Protect Connected Floodplains and Dynamic Hydrologic and Geomorphic Processes on the Sacramento River and its Tributaries

Recommendations:

- 4.1 Develop protection priorities for connected floodplains and dynamic processes, as described in *Natural River Processes* (Pg. 4), along the Sacramento River and its tributaries.
- 4.2 Acquire property or easements on adjacent floodplain to allow dynamic river processes and restore floodplain vegetation, as outlined in Goal 8 through:
 - 4.2.1 Completion of USFWS' Sacramento River National Wildlife Refuge (SRNWR), authorized to acquire up to 18,000 acres, including acquisition of 6,000 acres in the floodplain between Red Bluff and Colusa (USFWS, 2005).
 - 4.2.2 Continued implementation of CDFW's Comprehensive Management Plan for the Sacramento River Wildlife Area (CDFG, 2004).
 - 4.2.3 Continued acquisition of floodplain properties by non-governmental organizations, such as The Nature Conservancy and River Partners, to support agency goals.

Restore Habitat and Dynamic River Processes

Restoring natural floodplain land cover, particularly riparian grassland, next to the river channel would provide vital foraging habitat for local colonies (Moffatt et al., 2005). Bank Swallow colony persistence, from 1999 through 2008, was highest at sites with herbaceous vegetation or scrub, followed by riparian forest. Colony sites with agriculture (orchards, grain, and hay) above the bank persisted for a much shorter time (Garcia, 2009). Management of restored floodplain should promote open grass and wildflower vegetation, including protocols that stimulate new plant growth and reduce invasive plant species. Floodplain habitat restoration and management is currently underway on public lands, such as Sacramento River National Wildlife Refuge (USFWS, 2005), with positive results for many species (Golet et al., 2008).

Agencies, non-governmental organizations, and private landowners can increase available habitat through restoration of natural banks, meander potential, and dynamic river processes by removing revetment, constructing setback levees, and improving flow regimes. The restoration of river processes by removing rock revetment and levees has

resulted in successful colonization of formerly unavailable habitat by the Bank Swallow (Golet et al., 2003). Various entities, including the BANS-TAC, have developed a preliminary list of locations where bank stabilization can be removed to increase potential Bank Swallow nesting habitat without impacting public safety.

Water resource managers and regulators can work to develop criteria for flow regimes that more accurately mimic a natural river hydrograph to promote bank erosion, meander migration, and channel cutoff during the non-breeding season (September 1 – March 31) to increase availability of nesting habitat. We recommend the following to restore habitat and dynamic river processes:

Goal 5: Remove revetment to restore habitat and meander potential

Recommendations:

- 5.1 Remove 100,000 linear feet (19 miles) of rock revetment on the Sacramento River between Red Bluff and Chico Landing by 2050.
 - 5.1.1 Remove 20,000 linear feet (4 miles) by 2025
 - 5.1.2 Remove 50,000 linear feet (10 miles) by 2035
 - 5.1.3 Remove 100,000 linear feet (19 miles) by 2050
- 5.2 Remove 50,000 linear feet (10 miles) of rock revetment between Chico Landing and Colusa by 2050.
 - 5.2.1 Remove 10,000 linear feet (2 miles) by 2025
 - 5.2.2 Remove 25,000 linear feet (5 miles) by 2035
 - 5.2.3 Remove 50,000 linear feet (10 miles) by 2050
- 5.3 Remove 130,000 linear feet (25 miles) of rock revetment between Colusa and Verona by 2050. This recommendation will potentially require set back levees as outlined in Goal 6.
 - 5.3.1 Remove 25,000 linear feet (5 miles) by 2025
 - 5.3.2 Remove 65,000 linear feet (13 miles) by 2035
 - 5.3.3 Remove 130,000 linear feet (25 miles) by 2050
- 5.4 Remove 10,000 linear feet (2 miles) of rock revetment from the Feather River by 2050.
- 5.5 Remove revetment where possible from other tributaries.

Goal 6: Construct setback levees to expand the meander belt by reconnecting floodplains to the river channel.

Recommendations:

- 6.1 Construct setback levees to restore 4500 acres of connected floodplain on the Sacramento River between Chico Landing and Colusa by 2050.
- 6.2 Construct setback levees to restore 7000 acres of connected floodplain on the Sacramento River between Colusa and Verona by 2050.
- 6.3 Construct setback levees to restore 500 acres of connected floodplain on the Feather River by 2050.

Goal 7: Manage flow regimes to improve floodplain connectivity and restore natural banks and river processes

Recommendations:

- 7.1 Consider Bank Swallows, their habitat, and natural river processes when developing flow criteria for ecosystem improvements and reoperation for water conveyance.
 - 7.1.1 Evaluate potential effects of flow management on Bank Swallows using existing tools such as the Sacramento River Ecological Flows Tool (TNC et al., 2008)
 - 7.1.2 Develop flow criteria that promote Bank Swallow habitat formation during the non-breeding season (September 1 - March 31) by providing annual flows that cause localized bank erosion and a minimum of one bankfull flood event every three years to promote bank erosion, meander migration, and channel cutoff.

Goal 8: Restore and manage floodplain vegetation to provide Bank Swallow nesting and foraging habitat.

Recommendations:

- 8.1 Continue to restore floodplain habitats on the Sacramento River through:
 - 8.1.1 Implementation of the USFWS Sacramento River NWR riparian and floodplain habitat restoration program (USFWS, 2005).
 - 8.1.2 Implementation of the CDFW Comprehensive Management Plan for the Sacramento River Wildlife Area (CDFG, 2004).
 - 8.1.3 Implementation of the California State Parks Central Valley Vision Implementation Plan (CDPR, 2009).
 - 8.1.4 Continued support of agency efforts through the Sacramento River Project partnership to restore additional acreage (Golet et al, 2003; The Nature Conservancy, 2013; River Partners, 2013).
- 8.2 Manage restored floodplain habitats to promote long-term viability when undertaking floodplain restoration along the Sacramento River (USFWS, 2005; 2013).

Mitigate Unavoidable Impacts to Dynamic River Processes and Bank Swallow Habitat

Where impact avoidance is not possible through the use of alternatives, mitigation measures must provide a net increase in habitat of comparable value. Examples of projects with unavoidable impacts may include protection for the public and critical infrastructure, and certain changes in flow regimes associated with water conveyance. When revetment is added to Bank Swallow habitat, the only acceptable mitigation is removal of revetment from potential Bank Swallow habitat. Acquisition or protection of lands through fee title or conservation easement should continue to be included as a tool for offsetting impacts to Bank Swallows when coupled with recovery of river processes and natural bank through revetment removal, but should not be considered mitigation in and of itself.

The following measures will only apply after the conservation actions above have been implemented to the greatest extent possible, and only to remaining impacts that are demonstrably unavoidable and have been rigorously minimized. We recommend the following for mitigation of impacts to Bank Swallow habitat and natural river process associated with any project:

Goal 9: Mitigate unavoidable impacts

Recommendations:

- 9.1 Consult with CDFW when planning projects to assess the impacts to potential and suitable Bank Swallow nesting habitat and river processes, and to develop appropriate mitigation.
- 9.2 Mitigate at a ratio of 3:1 for impacts to natural banks with current or suitable Bank Swallow nesting habitat by acquiring a conservation easement on banks currently suitable for nesting habitat at a ratio of 1:1 linear feet, **and** removing revetment from previously stabilized banks at a ratio of 2:1 linear feet. Additional revetment removal may be counted towards restoration goals (see Goal 5).
- 9.3 Mitigate at a ratio of 2:1 for impacts to natural banks that are not currently suitable Bank Swallow habitat by acquiring a conservation easement on banks currently suitable for nesting habitat at a ratio of 1:1 linear feet, **and** remove revetment from previously stabilized banks at a ratio of 1:1 linear feet. Additional revetment removal may count toward restoration goals (see Goal 5).
- 9.4 Consult with CDFW before making dam releases that could impact Bank Swallows during breeding season (April 1 - August 31) **and** acquire a conservation easement of 1:1 linear feet of eroding bank whenever flows cause loss of occupied nests, eggs, or chicks due to bank collapse or inundate colonies on the Sacramento River during breeding season.

RESEARCH NEEDS FOR ADVANCING BANK SWALLOW (*RIPARIA RIPARIA*) CONSERVATION ON THE SACRAMENTO AND FEATHER RIVERS

To help identify and prioritize research that will generate information that supports Bank Swallow conservation on the Sacramento and Feather Rivers, the Bank Swallow Technical Advisory Committee has generated a list of suggested studies. This is not an exhaustive list of all possible studies, but rather a list of projects that would directly contribute to informing and improving conservation actions.

- *Continue and expand the annual CDFW/USFWS surveys of colonies along the Sacramento River and its tributaries.* The ongoing Bank Swallow surveys provide critical data for understanding the status of the population and the effectiveness of conservation actions. By increasing the frequency of surveys in the Redding to Red Bluff (RM 292–243), Colusa to Verona (RM 143–81) reaches, and the Feather River researchers could help eliminate the small but potentially significant data gap. Surveys of these areas would ideally be conducted annually, but if resources are limited, surveys in alternate years may suffice.
- *Investigate the relationship between the magnitude, timing, duration, and frequency of high flow events and potential impacts to Bank Swallow colonies and habitat.* There are documented observations of partial or complete loss of colonies caused by localized bank sloughing and erosion associated with high flow events during breeding season on the Sacramento River. However, much uncertainty exists regarding potential water management actions that might reduce the risk of such impacts. Research should be conducted to improve our ability to predict the locations that are most at risk of bank failure and colony loss, and the flow conditions most likely to cause such impacts.
- *Correlate soil mapping with expected bank erosion to prioritize locations for potential Bank Swallow colonies.* A quantitative and spatially explicit analysis that combines expected patterns of river channel migration and soil types is needed. This information will help guide the acquisition of floodplain parcels and easements. It will also help identify areas where benefits to Bank Swallows may be maximized when riprap is removed or allowed to degrade.
- *Quantify the need for surplus nesting banks.* An analysis of the percent of suitable nesting bank that needs to remain unoccupied to best support the metapopulation dynamics of the species could help inform decisions about banks protection and riprap removal. A comparison could be made between the

Feather and Sacramento Rivers to evaluate if this unoccupied percentage is similar between the two systems.

- *Study reproductive biology at existing colonies.* Additional studies of reproductive biology are needed to develop a better understanding of the relationship between burrow counts and demographic parameters, such as burrow occupancy, number of nesting attempts, and number of young fledged per pair. Any information on how reproductive biology varies among colonies that differ in number of burrows, bank erosion rates, above-colony habitat types, proximity to different types of foraging habitat, or general geographic location would be valuable. This information could be used to revise parameter estimates in population viability analyses and to link the burrow index to actual population size.
- *Develop and use other metrics to quantify the health of Bank Swallow of the Sacramento and Feather River Bank Swallow populations.* A number of tools, beyond the burrow counts that have been used to date, could provide valuable information about the status and health of the Bank Swallow population. These include population genetic analysis to generate information about population dynamics and toxicological analyses of adults and young to evaluate the risk associated with exposure to pesticides and other contaminants.
- *Investigate potential for bank restoration via removal of mining deposits (slickens) along the Feather River channel.* Approximately 160,000 linear feet of mining debris was deposited along the banks of the Feather River in the late 1800's. These deposits are composed of fine sediments, sand, and gravel which have hardened over time and are unusable by Bank Swallows. Often these deposits are on top of alluvial soils. Research should be conducted to determine if removal of these deposits is feasible, and whether the restored bank would provide suitable nesting habitat for Bank Swallows.

We encourage researchers interested in studying Bank Swallows to contact the Bank Swallow Technical Advisory Committee to ensure that projects can be developed in a manner that will support conservation in California.

ABBREVIATIONS

BANS-TAC - Bank Swallow Technical Advisory Committee

BIOS - Biogeographic Information and Observation System

CDFW - California Department of Fish and Wildlife. Formerly the California Department of Fish and Game (CDFG)

CESA - California Endangered Species Act

CEQA - California Environmental Quality Act

CFS - cubic feet per second

CNDDDB - California Natural Diversity Database

CVFPB - Central Valley Flood Protection Board

CVFPP - Central Valley Flood Protection Program

DWR - California Department of Water Resources

ESA - Endangered Species Act

FWCA - Fish and Wildlife Coordination Act

MBTA - Migratory Bird Treaty Act

PRBO Conservation Science – Currently Point Blue Conservation Science, formerly Point Reyes Bird Observatory, or PRBO

SERP - Small Erosion Repairs Program

SRBPP - Sacramento River Bank Protection Program, also known as Sac Bank

SRCAF - Sacramento River Conservation Area Forum

SRNWR - Sacramento River National Wildlife Refuge

TNC - The Nature Conservancy

USACE - United States Army Corps of Engineers

USFWS - United States Fish and Wildlife Service

LITERATURE CITED

- Brinkley, E.S. 2007. National Wildlife Federation Field Guide to Birds of North America. National Wildlife Federation.
- Buechner, M. 1992. Preliminary Population Viability Analysis for Bank Swallows (*Riparia riparia*). California Department of Fish and Game, Sacramento, California.
- Buer, K., B. Ross, D. Forwalter, B. Brewster, T. Meeth, G. Gordon, C. Andreasen, E. Willard. 2004. SP-G2: Effects of Project Operations on Geomorphic Processes Downstream of Oroville Dam. Technical Report. Department of Water Resources. Sacramento, California.
- CDFG (California Department of Fish and Game). 1992. Recovery plan: Bank Swallow. Report no. 93.02. California Department of Fish and Game, Nongame Bird and Mammal Section, Wildlife Management Division, Sacramento, California.
- CDFG (California Department of Fish and Game). 2004. Comprehensive Management Plan for the Sacramento River Wildlife Area. California Department of Fish and Game Sacramento, California.
- Cowley, E. 1979. Sand Martin population trends in Britain, 1965-1978. *Bird Study* 26:113-116.
- Freer, V.M. 1977. Colony structure and function in the bank swallow *Riparia riparia*. PhD Thesis, State University of New York, Binghamton, N.Y.
- Freer, V.M. 1979. Factors affecting site tenacity in New York Bank Swallows. *Bird Banding* 50:349-357.
- Garcia, D. 2009. Spatial and temporal patterns of the Bank Swallow on the Sacramento River. Master's Thesis. Chico State University, Chico, CA. 94 pp.
- Garcia, D., R. Schlorff, and J. Silveira. 2008. Bank Swallows on the Sacramento River, a 10-year update on populations and conservation status. *Central Valley Bird Club Bulletin* 11:1-12.
- Garrison, B.A. 1991. Evaluation of experimental nesting habitat and selected aspects of bank swallow biology on the Sacramento River, CA 1988 to 1990. Prepared for the U.S. Army Corps of Engineers, Sacramento District. USFWS Sacramento Field Office, Sacramento, California.

Garrison, B.A. 1998. Bank Swallow (*Riparia riparia*). In: The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html

Garrison, B.A. 1999. Bank Swallow (*Riparia riparia*). In: Poole, A. and F. Gill, editors. The Birds of North America, No. 414. The Birds of North America, Inc., Philadelphia, PA.

Garrison, B.A., J.M. Humphrey, and S.A. Laymon. 1987. Bank Swallow distribution and nesting ecology on the Sacramento River, California. *Western Birds* 18:71-76.

Garrison, B., and R. McKernan. 1994. Bank swallow. In: Thelander, C.G. and M. Crabtree, editors. Life on the edge: a guide to California's endangered natural resources: wildlife. Biosystems Books, Santa Cruz, California. P208-209.

Garrison, B.A., R.W. Schlorff, J.M. Humphrey, S.A. Laymon, and Michny F.J. 1989. Population trends and management of the bank swallow. USDA Forest Service General Technical Report PSW-110.

Girvetz, E.H. 2010. Removing erosion control projects increases bank swallow (*Riparia riparia*) population viability modeled along the Sacramento River, California USA. *Biological Conservation*. 143: 828-838.

Golet, G.H., D.L. Brown, E.E. Crone, G.R. Geupel, S.E. Greco, K.D. Holl, D.E. Jukkola, G.M. Kondolf, E.W. Larsen, F.K. Ligon, R.A. Luster, M.P. Marchetti, N. Nur, B.K. Orr, D.R. Peterson, M.E. Power, W.E. Rainey, M.D. Roberts, J.G. Silveira, S.L. Small, J.C. Vick, D.S. Wilson, and D.M. Wood. 2003. Using science to evaluate restoration efforts and ecosystem health on the Sacramento River Project, California. In Faber, P. M., editor. 2001 Riparian habitat and floodplain conference proceedings. Riparian Habitat Joint Venture, Sacramento, California. P. 368-385.

Golet, G.H., T. Gardali, C.A. Howell, J. Hunt, R.A. Luster, W. Rainey, M.D. Roberts, J. Silveira, H. Swagerty, and N. Williams. 2008. Wildlife Response to Riparian Restoration on the Sacramento River. *San Francisco Estuary and Watershed Science*. Vol. 6, Issue 2 (June), Article 1.

Grinnell, J., and A.H. Miller. 1944. The distribution of birds in California. *Pacific Coast Avifauna* 27.

Gross, A.O. 1942. Bank swallow. In: Bent, A. C., editor. Life Histories of North American flycatchers, larks, swallows, and their allies. U.S. National Museum Bulletin 179. p. 400-424

Hardwood, J. and J. Harrison. 1977. A study of an expanding Sand Martin colony. *Bird Study* 24:47-53.

Heneberg, P. 2001. Size of sand grains as a significant factor affecting the nesting of bank swallows (*Riparia riparia*). *Biologia, Bratislava* 56:205-210.

Heneberg, P. 2009. Soil penetrability as a key factor affecting the nesting of burrowing birds. *Ecological Restoration* 24:453-459.

Hight, R.C. 2000. California Department of Fish and Wildlife's Annual Report on the Status of the Bank Swallow Breeding Population in the State. Technical Letter to the California Fish and Game Commission. California Department of Fish and Wildlife.

Hoogland, J.L. and P.W. Sherman. 1976. Advantages and disadvantages of Bank Swallow (*Riparia riparia*) coloniality. *Ecological Monographs* 46:33-58.

Humphrey, J.M., and B.A. Garrison. 1987. The status of bank swallow populations on the Sacramento River, 1986. California Department of Fish and Game. Wildlife Management Division, Final report. Sacramento, California, 35 pages + appendix.

Larsen, E.W., E.H. Girvetz, and A.K. Fremier. 2006. Assessing the effects of alternative setback channel constraint scenarios employing a river meander migration model. *Environmental Management* 37:880-897.

Laymon, S.A., B.A. Garrison, and J.M. Humphrey. 1988. Historic and current status of the Bank Swallow in California, 1987. California Department of Fish and Game, Wildlife Management Division, Administrative Report, Sacramento, California. 88-2.

Moffatt, K.C., E.C. Crone, K.D. Holl, R.W. Schlorff, and B.A. Garrison. 2005. Importance of hydrologic and landscape heterogeneity for restoring Bank Swallow (*Riparia riparia*) colonies along the Sacramento River, California. *Restoration Ecology* 13:391-402.

Remsen, J.V. 1978. Bird Species of Special Concern in California. California Department of Fish and Game. Sacramento, CA.

River Partners. 2013. 2013 Operational Plan. Internal Report. Chico, CA

Schlorff, R.W. 1995. Five-year Status Review: Bank swallow (*Riparia riparia*). California Department of Fish and Game. Wildlife Management Division, Sacramento California. 20 pp.

Schlorff, R.W. 1997. Monitoring bank swallow populations on the Sacramento River: A decade of decline. *Transactions of the Western Section of the Wildlife Society*. 33:40-48.

Stillwater Sciences. 2007. Linking Biological Responses to River Processes.

Implications for conservation and management of the Sacramento River. Prepared by Stillwater Sciences, Berkeley, CA. Prepared for The Nature Conservancy, Chico, CA.

Stoner, D. 1926. Observations and banding notes on the bank swallow: II. Auk, Vol 43, No.2, pp.198-213.

Stoner, D. 1936. Studies on the Bank Swallow, *Riparia riparia riparia* (Linnaeus) in the Oneida Lake Region. Roosevelt Wild Life Annals 4:126-233.

Szep, T., and A.P. Møller. 1999. Cost of parasitism and host immune defense in the Sand Martin *Riparia riparia*: a role for parent-offspring conflict? *Oecologia* 119:9-15.

The Nature Conservancy. 2013. Sacramento River Conservation Business Plan FY 2013 – 2015. Internal report. Chico, CA.

The Nature Conservancy, Stillwater Sciences, and ESSA Technologies. 2008. Sacramento River Ecological Flows Study: Final report. Prepared for CALFED Ecosystem Restoration Program. Sacramento, CA. 70 pp.

Turner, A. and C. Rose. 1989. Swallows and martins: an identification guide and handbook. Houghton Mifflin, MA.

USFWS (U.S. Fish and Wildlife Service). 2000. Impacts of rip-rapping to ecosystem functioning, lower Sacramento River, California. Prepared by Sacramento Office, U.S. Fish and Wildlife Service, for Sacramento District, U.S. Army Corp of Engineers, for the FWS's Fish and Wildlife Coordination Act Report, and Biological Opinion, for proposed bank protection work, USFWS, June 29, 2000 Final. U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, CA.

USFWS (U. S. Fish and Wildlife Service). 2005. Sacramento River National Wildlife Refuge Final Comprehensive Conservation Plan. Prepared by: California/Nevada Refuge Planning Office, Sacramento CA and Sacramento National Wildlife Refuge Complex, Willows, CA.

USFWS. 2013. 2013 Annual Habitat Management Plan: Sacramento River National Wildlife Refuge. Sacramento National Wildlife Refuge Complex, Willows, CA.

Wright D.H., H. Lomeli, P.S. Hofmann, and C. Nguyen. 2011. Burrow occupancy and nesting phenology of bank swallows along the Sacramento River. *California Department of Fish and Game* 97: 138-147.

Attachment 2. Ecological Flows Tool



The Ecological Flows Tool (EFT) is a decision support system that demonstrates how changes in flow management and other actions result in changes to the physical habitats for multiple species within the Sacramento River and Delta. EFT works by integrating a range of representative functional ecological response indicators with physical variables obtained from widely used hydrologic models. EFT transparently relates multiple attributes of flow regime to multiple species' life-history needs, contributing to an effective understanding of flow and non-flow actions on focal species and their habitats. The hallmark of the EFT approach is integration and communication of multiple ecological tradeoffs associated with different water operation alternatives.

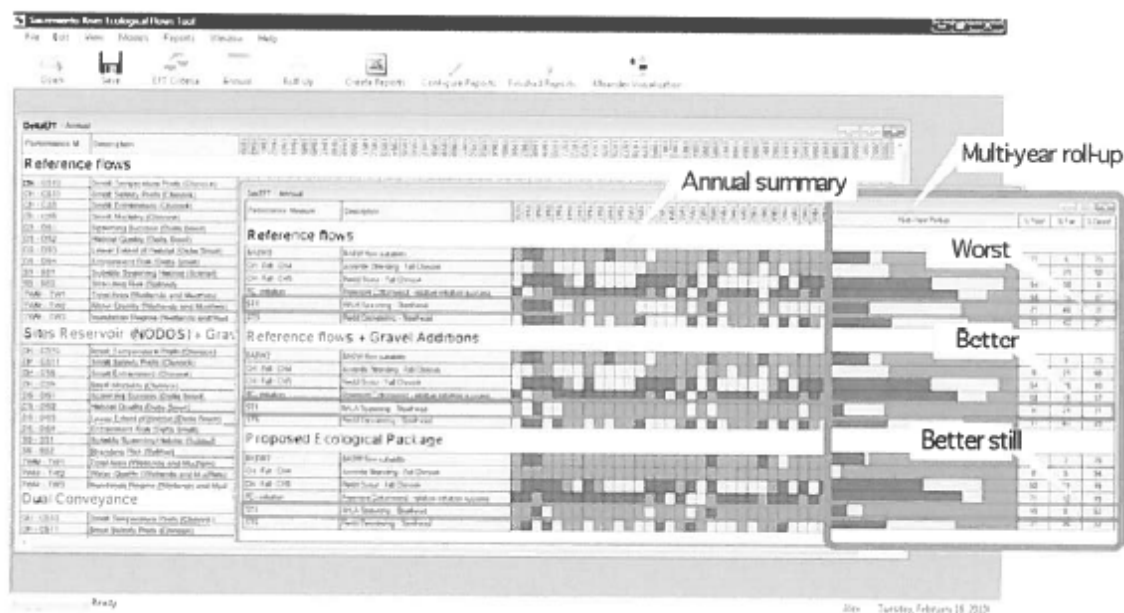
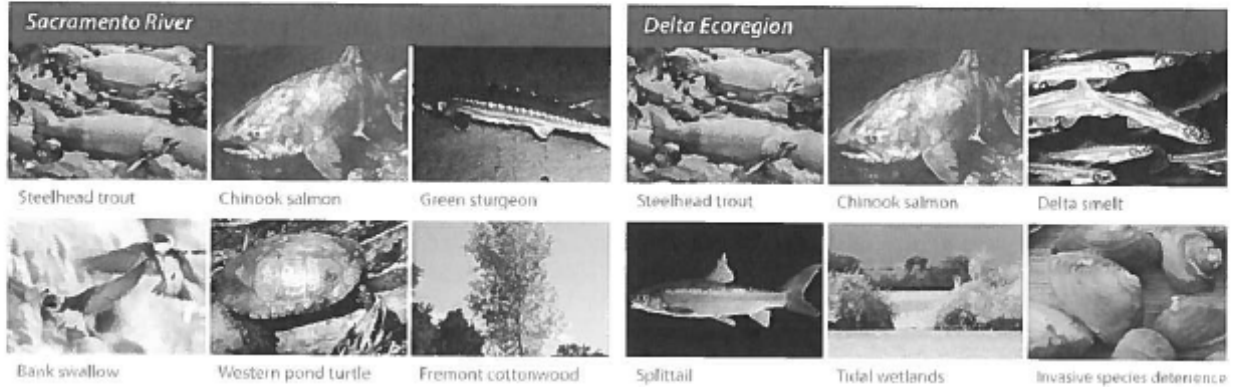


FIGURE 1 » Example of annual and multi-year roll-up traffic light indicator ratings.

Multiple Focal Species & Indicators

In all, EFT includes conceptual models for eleven (11) species and twenty four (24) causally reasoned performance indicators (Figure 2). EFT performance indicators are based on a mixture of process-based ecological functions and empirical relationships between flow, habitats, and focal species response. EFT's representative ecological indicators capture the essence of existing conceptual models and are driven by widely used physical models for flow, stage, salinity, and water temperature. Intuitive output interfaces allow cross-walking of ecological consequences over policy alternatives.

FOCAL SPECIES & HABITATS



Sacramento River			Delta Ecoregion		
Focal Species & Habitats	Performance Measures		Focal Species & Habitats	Performance Measures	
Fremont cottonwood (FC)	FC1	Successful Fremont cottonwood initiation	Chinook salmon, Steelhead trout (CS)	CS7	Smolt weight gain in alt. migration corridors
	FC2	Cottonwood seedling scour		CS9	Smolt mortality index as a function of passage time (negatively correlated with CS7)
Bank swallow (BASW)	BASW1	Habitat potential/suitability		CS10	Smolt temperature preference index (departures from optimum v. weight gain)
	BASW2	Risk of nest inundation and bank sloughing during nesting			
Western pond turtle	LWD1	Index of old vegetation recruited to the Sacramento River mainstem	Delta smelt (DS)	DS1	Spawning success index
				DS2	Index of habitat suitability
				DS4	Entrainment risk (index)
Green sturgeon (GS)	GS1	Egg-to-larvae survival	Splittail (SS)	SS1	Proportion of maximum potential spawning habitat (index)
Chinook salmon, Steelhead trout (CS)	CS1	Area of suitable spawning habitat (ft ²)			
	CS3	Egg-to-fry survival (proportion)	Fresh/brackish tidal wetlands (TW)	TW1	Brackish wetland area
	CS5	Redd scour risk		TW2	Freshwater wetland area
	CS6	Redd dewatering (proportion)	Invasive species deterrence (ID)	ID1	Brazilian waterweed suppression
	CS2	Area of suitable rearing habitat (ft ²)		ID2	(<i>Corbula</i>) Invasive clam larvae and recruit suppression
	CS4	Juvenile stranding (index)		ID3	(<i>Corbicula</i>) Invasive clam larvae and recruit suppression

FIGURE 2 » Species and their performance measures in EFT.

EFT is structured as an "ecological plug-in" to existing models that are commonly used for water planning in the Central Valley (Figure 3). Rather than reinventing models, EFT utilizes output data sets from daily disaggregations of CALSIM, DSM2, and other models that are used to investigate water delivery and other standards set for the CVP and SWP water system. EFT utilizes these data and adds ecological calculations to evaluate effects on multiple ecosystem targets.

Extensive scientific understanding of the Sacramento River and Delta ecosystem's likely response to changes in flow management has been developed over the past twenty years. Prior to EFT, much of this important information existed in a multitude of separate reports, independent conceptual models, and unconnected modeling tools. EFT has synthesized much of this disparate information, linking ecological submodels to existing physical planning models, providing a major advance in the region's capabilities for assessing ecological tradeoffs. The EFT framework also makes it easy to "swap in" (or remove) indicators as the state of scientific knowledge evolves.

The functional relationships and indicators that are encapsulated into the decision support tool represent the collective thoughts of more than seventy scientists from state and federal agencies, consulting firms, and research institutions who have participated

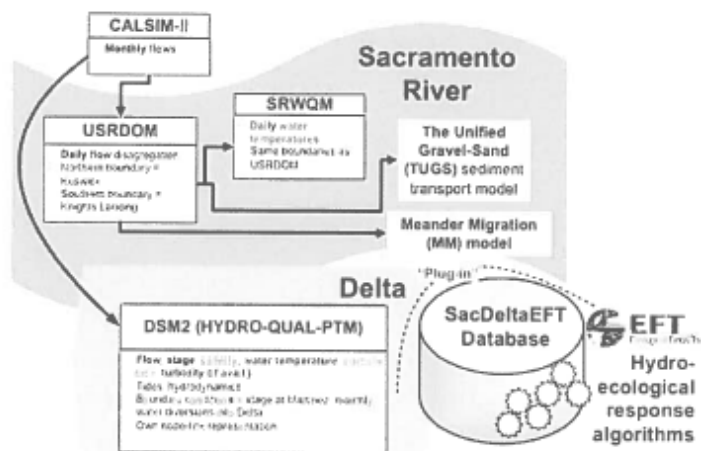


FIGURE 3 » EFT hydrologic foundation. Note: Physical models used in DeltaEFT are not necessarily limited to those shown here. Where it is feasible and practical to obtain outputs at a daily resolution for multi-decadal simulations, other models can be "swapped in" if they are deemed a better representation of the physical variables of interest.

in our workshops or who wrote primary papers on which the relationships are based.

In addition to integrating disparate sources of information, a challenge overcome by EFT's design is translating information into easily understandable results for managers. Practical synthesis and integration is challenging when considering multiple ecological targets, complex physical models, and multiple audiences (e.g., high-level managers as well as technical-level staff). EFT

creates output that can span the range from high overview to daily and location-specific detail. The output interface makes extensive use of a "traffic light" paradigm that juxtaposes performance measure results and scenarios to provide an intuitive overview of whether a given year's performance measures are healthy (green), of some concern (yellow), or of serious concern poor (red).

EFT's output interface and reports for trade-off analyses make it clear how actions

FIGURE 4 » Example of map-based output information for DS4: Index of risk of entrainment.



The Sacramento Delta • ECOLOGICAL FLOWS TOOL

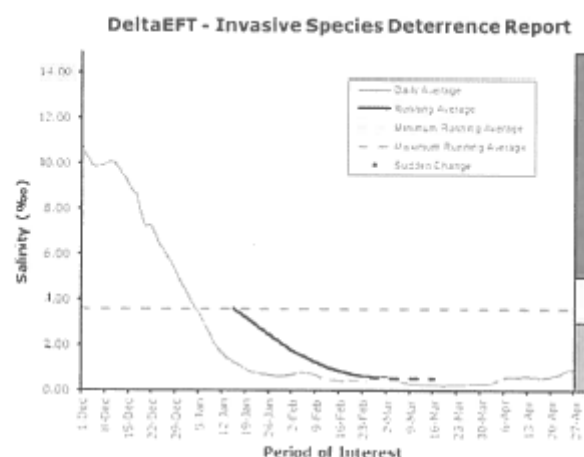


FIGURE 5 » Example of Excel output graph information for ID2: Brackish water invasive overbite clam suppression.

Ecoregion	
Species	
Indicator	FC1 Cottonwood relative initiation success
Objective	Periodically provide recession flows that support areas for riparian initiation
Timing	O N D J F M A M J J A S
Location	Hamilton City (RM199)
Variable & Condition	
Recurrence	At least once every 8 years

FIGURE 6 » Example of functional for one EFT indicator.

implemented for the benefit of one area or focal species may affect (both positively and negatively) another area or focal species. For example, we can show how altering Sacramento River flows to meet export pumping schedules in the Delta affects focal species' performance measures both in the Sacramento River and the Delta.

One of the biggest challenges in the practical development of ecological flow regime guidelines is the wide range of objectives, focal species, and habitat types that need to be considered. EFT has brought into focus how these various objectives cannot all be simultaneously met. In nature, conditions often benefit one target or species to the potential detriment of another in any given year. Fortunately, flow characteristics that benefit the various ecological targets investigated are usually required on a periodic basis and not every single year. EFT studies simplify communication of these trade-offs and catalyze definition of state-dependent management practices that promote the development of needed flexibility in the water management system.

EFT focal species submodels are integrated and centered on a single SQL server relational database. The software's graphical user interface, model controller & analysis engine, and Excel & map visualization output reporting connect to and interact with this central database over the web. Users may perform Sacramento River (SacEFT)

or Delta (DeltaEFT) effects analyses separately or in conjunction with one another. Users can choose which management scenarios to evaluate, what range of years to display, and which ecological indicators they wish to evaluate.

What Does EFT Contribute to Water Resource Management?

EFT contributes to a more comprehensive understanding of how proposed changes to water operations infrastructure and management (and future climate conditions) affect target species and habitats. EFT does not solve social value decisions about whether a particular action or alternative is "good" or "bad." Rather EFT is designed to provide information about the positive, neutral, and/or negative effects of a particular alternative, across a suite of representative focal species and their habitats. As noted above, EFT's intuitive outputs make it clear how actions implemented for the benefit of one area or focal species may influence (both positively and negatively) another area or focal species.

EFT is also useful for developing functional flow guidelines. Because of the multi-species approach, EFT helps communicate how to prioritize and trade off amongst ecological objectives and adjust these priorities based on emerging conditions (e.g., water year types) and the ability to realize different objectives over time.

Software

EFT Reader software is publicly available and free to download at <http://essa.com/tools/eft/download>. The EFT Reader links with a centralized copy of the EFT database located on a remote server. The public EFT Reader database currently contains a suite of fully configured scenarios, derived from the Sacramento River Ecological Flows Study and from test scenarios supplied by DWR and project partners. Future versions of the EFT Reader database will include results for simulations based on other effects analysis investigations, as they move into the public domain.

EFT was developed between 2004 and 2012 with funding from the Department of Fish and Wildlife's Ecosystem Restoration Program, The David and Lucile Packard Foundation, The Nature Conservancy, and ESSA Technologies.

Additional Information

- <http://essa.com/tools/eft>
- http://www.dfg.ca.gov/ERP/signature_sacriverecoflows.asp

D-SCSHA Duplicate of O-SCSHA



DUNCAN, KATHLEEN <kduncan@usbr.gov>

Fwd: Public Comment Submission to SLWRI Draft EIS

1 message

KATRINA CHOW <kchow@usbr.gov>
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Wed, Oct 23, 2013 at 1:06 PM

Sent from my iPhone

Begin forwarded message:

From: Desiree La Maggiore <desiree.lamaggiore@gmail.com>
Date: September 30, 2013, 3:01:21 PM PDT
To: <bor-mpr-slwri@usbr.gov>
Cc: <kchow@usbr.gov>, "Rezeau, Nathan L -FS" <nrezeau@fs.fed.us>
Subject: Public Comment Submission to SLWRI Draft EIS

We are USFS special use permit holders with a cabin in the Salt Creek Recreation Residence tract that may be impacted by the plans put forth in the SLWRI Draft EIS (per tables 18-6 and 18-8 covering impacts on recreation of comprehensive plans (CPs) 3-5). We are participating in the public comment process for the following reasons:

Primarily,

- To establish our eligibility to comment/object to the Forest Service's draft decisions relating to this project. It is our understanding that the Forest Service will provide draft decisions later in the SLWRI process and we wish to participate in the public processes associated with these actions.
- Because there is a lack clarity on how we, USFS special use permit holders and cabin owners, can determine or will be notified as to the specific impacts of this project on our personal property (the recreational residence structure itself).
 - Our tract association has been proactive in seeking out

information about the SLWRI work for the past decade and how it may impact us, however, it was not until late June that our tract received a mailing with a copy of the SWRI Draft EIS. We reviewed the Preliminary Draft EIS in February 2012 and attended community meetings - at that time there was no indication our recreational residence tract would be impacted in any of the materials distributed.

- We attended the SLWRI Public Workshop held on July 16, in Redding, CA. At that meeting, when queried on the issue of how we, cabin owners, would receive specific information on if and how our cabin would be impacted, we were referred to the Real Estate breakout session. Ms. Mary Paasch led the session and had no clear answer on how we'd get a more definitive answer. She recommended we make the request through this public comment process. I also followed up with Mr. Nathan Rezeau, deputy district ranger, Shasta-Trinity National Forest, who concurred with Ms. Paasch's recommendation. Per this comment, we are requesting specific impacts to our cabin be made available and if a ground-based survey is required to do that, that it be offered in accordance with the SLWRI Draft EIS Real Estate Appendix.

Secondarily,

- It is unclear how comprehensive the cost estimates tied to this project are, for example, when reviewing the plan, it seems like the full expense impact to the USFS has not been captured, e.g. cabin relocation or buyout (they've been estimated and identified in the Draft EIS, but it's not clear if they've been included in the project funding outlined in the SLWRI Feasibility Report. Where can the public obtain a summary of what is and what is not included in the funding proposed for this project?
- It is not clear enough effort is being made to protect surrounding communities, such as Lakehead, that will be significantly impacted by this proposal. There are indications of re-routing, replacing, removing parts of these communities, but there appears to be no thought as to how to holistically support/sustain these communities through the implementation of this project. In light of the forecasted increasing demand for recreation outlined in the SLWRI Draft EIS, it would seem more attention should be given to how to assist the communities that support recreation on the lake.

- When reviewing this plan and attending the 7/16 Public Workshop meeting, it became increasingly unclear how the proposal for raising Shasta Dam plays into a larger water conservation strategy for California, including the proposed Sites and Temperance Flat Reservoirs or the Bay-Delta plan. What is the scale of the problem being addressed and, how these large projects combined with other types of water conservation measures will help resolve the water shortage (not water storage shortage) issue.

By participating in the Public Comment Period for the SLWRI Draft EIS, we are, respectfully, reserving our right to participate in any future Bureau of Reclamation's, USFS's, or other governmental entities' draft plans and/or public processes related to this and any future SLWRI proposals for raising Shasta Dam.

Sincerely,

Vince Maggiore and Desiree LaGrone - La Maggiore
299 S. 16th Street, San Jose, CA 95112
desiree.lamaggiore@gmail.com

D-STCDA Duplicate of O-STCDA



SLWRI, BOR MPR <sha-mpr-slwri@usbr.gov>

Comments on raising the Shasta Dam

1 message

Janet McCleery <jmccleery@duckpondsoftware.com> Sun, Sep 1, 2013 at 2:42 PM
To: BOR-MPR-SLWRI@usbr.gov

Thank you for the opportunity to comment on the Shasta Dam project.

Raising the Shasta dam increases reliance on the Delta as a plumbing fixture instead of meeting the 2009 Delta Reform Act direction to reduce reliance on the Delta. In addition, since the water is claimed for Central Valley agriculture, raising the Dam must have as one of it's "assumptions" that the Bay Delta Conservation Plan will be approved and the tunnels will be built because currently exports are restricted due to lack of storage south.

Because of the environmental and economic/personal consequences of raising the dam, instead it makes much more sense to focus on in-ground storage or other storage south of the Delta, desalination and/or recycling, and conservation to meet the needs for the rest of the state. Those efforts meet the Delta Reform Act's direction to increase regional self-sufficiency.

Jan

Janet McCleery | STCDA | www.noDeltaGates.com

925.978.6563 (Cell) | 925.240.8501 (Home)

D-SLFP Duplicate of O-SLFP



DUNCAN, KATHLEEN <kduncan@usbr.gov>

Fwd: Shasta Dam Raise - Public Comments

1 900-545-5000

KATRINA CHOW <kchow@usbr.gov>
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Wed, Oct 23, 2013 at 1:08 PM

Sent from my iPhone

Begin forwarded message:

From: Toby McLeod <tm@sacredland.org>
Date: September 30, 2013, 4:47:11 PM PDT
To: <BOR-MPR-SLWRI@usbr.gov>, "Chow, Katrina C"
<KChow@usbr.gov>
Subject: Shasta Dam Raise - Public Comments

Katrina Chow, Project Manager, US Bureau of Reclamation, Planning Division, 2800 Cottage Way, Sacramento, CA 95825-1893 - See more at: <http://www.sacredland.org/please-comment-on-shasta-dam-raise-deis/#sthash.ebNlxy6n.dpuf>

Katrina Chow, Project Manager, US Bureau of Reclamation, Planning Division, 2800 Cottage Way, Sacramento, CA 95825-1893 - See more at: <http://www.sacredland.org/please-comment-on-shasta-dam-raise-deis/#sthash.ebNlxy6n.dpuf>

Katrina Chow

Project Manager

U.S. Bureau of Reclamation, Planning Division
2800 Cottage Way, Sacramento, CA 95825-1893

Katrina Chow, Project Manager, US Bureau of Reclamation, Planning Division, 2800 Cottage Way, Sacramento, CA 95825-1893 - See more at: <http://www.sacredland.org/please-comment-on-shasta-dam-raise-deis/#sthash.ebNlxy6n.dpuf>

10/23/13

DEPARTMENT OF THE INTERIOR Mail - Fwd: Shasta Dam Raise - Public Comments

Dear Ms. Chow,

Please accept 1,903 signatures in opposition to the proposal to raise the height of Shasta Dam and please add this document to the DEIR comment section. We will mail a copy of this petition as well. The petition was posted online on the CREDO Mobilize site at:
<http://www.credomobilize.com/petitions/stop-the-raise-of-shasta-dam-support-the-winnemem-wintu>

Thank you,
Christopher McLeod

--

Toby McLeod
Sacred Land Film Project
David Brower Center
2150 Allston Way, Suite 440
Berkeley, CA 94704

tel: 510-859-9190
<http://www.sacredland.org>

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3K

 **Shasta Dam Raise - Public Comment Petition.pdf**
228K

Shasta Lake Water Resources Investigation
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To: Bureau of Reclamation

Abandon the proposal to raise the height of the Shasta Dam by 18.5 feet, and prevent cultural harm to the Winnemem Wintu's sacred lands and ecological damage to the McCloud and other rivers of northern California.

Signed by 1,903 people:

Name	Postcode	Address
Christopher McLeod	94708	980 Grizzly Peak Blvd
Helene Sisk	96003	7480 Dry Creek Rd, Redding, CA
Barbara A gill	96002	4343 Agnes May
Alex Hughes	94933	PO Box 805
Danita Herrera	97401	1489 Cal Young Rd, Eugene, Or
Richard Torres	95758	6801 Kilconnell Drive
caitlin mezsersieg	97520	ashland
Misa Joo	97405	2327 Jefferson Street
Chloe Say	97601	1215 Adams st
Nancy Willis	94662	PO Box 99684, Emeryville, CA
David Martinez	96096	Po Box 219 Whitmore Ca
Laura Ferrando	44124	lyndhurst, ohio
Lisa Guide	94608	1025 56th St
Teresa S	95826	Sacramento
Rebecca Guzman	95835	2124 Catherwood Way
adriana martinez	90201	5519 watcher street
Leslie F	96001	Redding
kristen brandt	97403	250 N Brooklyn Ave
gail lichtsinn	45231	9377 jericho dr.
Natasha Joseph	97477	496 1/2 West D Street
Donna Crispin	97401	780 Waverly St.
Ken Neubeck	97405	4915 W. Hillside Drive
Stefanie Messina	06612	170 bibbins rd easton ct
Jeanne France	96096	PO Box 219
Noah Schlager	94920-2602	116 Barn Road
Christine Hood	95928	1850 Humboldt Rd #68
Kathleen Kimberling	95670	2208 Wood Cliff Way

Name	Postcode	Address
Dianne Brennan	94110	1020 Florida Street
Robert Hughes	94571	147 N. 4th St
Rafael Rolon	95207	6112 glenbrook ln
Ric Rudgers	95662	5484 plantain circle
Joanna Holmes	97031	4145 Dee Hwy
James Goetsch	33711	5201 41st Street South
Ara Johnson	95018	859 Brookside Way
David Bartz	94020	La Honda, CA
Tess H	97322	Albany Or
Susan Alexander	94114	319 Hill St.
Crystal Cameron	88007	Las Cruces
Bonnie Fontana	94521	5173 Sutherland Dr
Florence Unger	95267	PO Box 7864
Judy Blaisdell	81122	1013 CR 525
peggy carberry	01603	156 apricot st
Steve Lawler	94505	5315 willow lake ct
Leslie Story	95242	16 River Bend Dr., Lodi, CA
Eden Shlomi	33711	4200 54th ave south
Stina Va	95205-2649	3245 Belvedere Ave.
kathleen stark	95642	14 smalley ave
Debra Gaylord	12154	PO Box 314
Nordyn Anderson	94509	1219 C Street, Antioch Ca
Natalie Beaver	95641	P.o. Box 258
Michael Frost	94070	2223 Carmelita Drive, San Carlos, CA
Dawn Dyer	86001	2478 Katchina Tr.
Colleen Fay	95948	1746 Kofford Road, Gridley
Maria Lucia Pacheco	20005	1409 15th st nw #18
lucy pacheco	20008	2640 garfield st
Claire Cummings	94903	2000 Bayhills Drive
Susan Wyckoff	12866	10 Knollwood Drive
Allison Toomey	95521	670 9th St. Apt A
Frances Kieschnick	94301	1467 Hamilton Avenue, Palo Alto

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Name	Postcode	Address
Ellen Grab	12866	183 Loudon Rd
betsy fields	81433	1867 Greene st.
Andrea Cwynar	94117-1323	1660 grove street
Geoff Thompson	81328	POB 486, Mancos, CO
Will Doolittle	97405	po box 5265
Donna Zick	95822	1126 Sherburn Avenue, Sacramento CA
Annita Lucchesi	95524	4771 Jacoby Creek Rd
Raven Stevens	96067	724 Butte Ave, Mt. Shasta, CA
Whitney Youngman	66044	1740 Ohio St #27, Lawrence, KS
Reid YALOM	94960	713 SIR FRANCIS DRAKE BLVD, SAN ANSELMO
Lucy Geever- Conroy	95112	520 S 12th St
Anna Marie Stenberg	95437	254 Wall St
Sarada Tangirala	94605	2480 82nd Avenue
Erik Roper	95817	2940 39th Street Sacramento
Krista Eiber	95410	p.o. box 366
Laura Pearson	95819	231 San Miguel Way
Stephanie Velednitsky	94024	1273 Carmel Terrace
Kerin Gould PhD	95626	Artesia Rd
Marie Isenberg	63011	1239 De Noailles Dr
Britt Magadini	97520	518 Maple Way
Iiana Maletz	86341	PO Box 21300
Buck Ellingson	95825	518 pine garden lane apt h
David Wright	95819	Sacramento, CA
Greta Montagne	95524	2506 jacoby creek road
jennifer Schellack	95819	86 43rd Street
Marlin Kirby	95841	5415 College Oak Drive
Jessica Abbé	94708	980 Grizzly Peak Blvd
Mike Hudson	94702	1204 Cedar
Robert Leigh	94577	2228 Buena Vista Ave, San Leandro, CA
Carol Courtney	95519	1650 blackhawk lane #79

Name	Postcode	Address
Jenny Gonyer	99302	280 Boyer Ave
Mollie Brown	94122	1341 20th ave
William Herrold	95736	21060 Pineridge Ln:
Elizabeth Haapanen	95460	Box 77 Mendocino
Elisabeth Middleton	95618	1320 Nutmeg Ln., Davis, CA
Lorraine Kerwood	97405	2575 Friendly St
Kathleen Hansen	96067	514 Mill ST
jeannemarie coulter	95437	31251 hwy 20
Seabrook Leaf	96011	P.O. Box 161
Jennifer Lupton-Wood	96067	906 woodland park dr mt Shasta, Ca
Leila Sadeghi	95630	240 Natoma Station Dr.
Kile Ozier	94114	2261 market street, #404-a
Mary Drew	97071	1596 Thompson Road
India Bowers	94110	3425 23rd Street #24
John Bachellor	95126	1038 liebelt
Ellen Albright	94505	1130 discovery bay Bl
mf schroyer	94110	1499 potrero
Donna Fairchild	95624	9478 Ranch Park Way, Elk Grove, CA
rene alvarez	94608	2340 Powell st
C G	94110	2425 24th st.
Angela Berry	94549	3739 highland rd
david brendel	11201	287 henry street
gabriela rasberry	95207	2737 birch ave
Joan Hansen	95690	14019 Islandview Way
Kayla Carpenter	95546	P.O. Box 878 Hoopa CA
Julie Larson	94577	958 Helen Avenue, San Leandro CA
Belinda Ramirez	91101	327 E Del Mar Blvd Apt 5
Jeff Mallory	93920	45955 Pfeiffer Ridge Road
Cara Lee-Shuff	94109	1855 Pacific Ave. #103 San Francisco, CA
Molly Brown	96067	722 Meadow Ave
Riikka Poulsen	00700	Tullirinne 2 i

Shasta Lake Water Resources Investigation
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Name	Postcode	Address
Tomasita Medál	94122	P.O. Box 22551 San Francisco
Mia Brown	95546	hwy 96 #160
Jenny Lor	97405	651 E 32nd Avenue
Scott Petty	95621	6987 Brayton Ave
Bonnie Johnson	96025	449 MicanSt., Dunsmuir, CA
Roxanne Moger	95817	2340 42nd St., Sacramento, CA
Ryan neily	81007	441 W. Lookout dr. Pueblo West
Elena Gardella	94702	1256 Russell St.
steve messina	11375	110-45 queens blvd #910 forest hills, ny
Karen Rogers	96067	po Box
Diane Pizza	94949	224 montego key Novato ca
Suzanne Nathans	94901	424 Woodland Ave
Ariel Gimble	87048	1432 Camino Hermosa
Gary Hughes	95521	145 G St., Suite A
Darci D'Anna	93924	34 Paso Hondo
Thomas Cahill	94559	1439 E Street, Napa, CA
Connor Yiamkis	96087	2125 Shasta CA
Barbara Pannullo	11772	15 Sharon Drive, Patchogue NY
Diane Tenerelli- June	07086	588 Gregory Avenue, Weehawken, NJ
Shannon Brawley	02875	201A Shannock Village Road
Jacqueline Castillo	87455	PO Box 7914
Alex Fidelibus	07302	280 Marin Blvd, Apt 21E
Mark Lakeman	97202	8512 SE 8th, Portland, OR
Janet Cavallo	19018	1276 Providence Rd
Scott Mendelson	27705	922 Hale St, Durham NC
Barbi j Leach	95546	Po box361 Hoopa,cal
chris skyhawk	95410	PO Box 127
Giuseppe Laneve	94901	557 east Francisco blvd
Lisa Lopez	95833	301 West El Camino #3
Joseph Pettit	52246	441 Hawkeye Drive, Iowa City, IA
Catherine Cadden	27516	1601 Eco Drive
Lani Phillips	96097	551 N Main Street

Name	Postcode	Address
Bruce Greene	97214	1906 SE Elliott Ave.
Heidi Bourne	95518	P. O. box 4313
Elaine Hudson	95621	7641 poplar ave
Kristin Allen	96094	4942 Lake Shastina Dr
Cairn Rodrigues	95691	1616 Portsmouth St
cerridwen bunten	96067	smith st
Mari Shanta	96025	6418 Dunsmuir Av
SHAWNA BROWN	94571-1619	520 main st
Kathryn Jessup	96067	1234 Nixon
Carol Bloom	95444-9306	2705 S. Brush St.
stevern lucker	95519	1289 azalea ave
Wenda Vander Werf	95692	PO Box 154
Joshua Chambers	96011	PO Box 33
David Donnenfield	94960	113 Madrone Ave. San Anselmo, CA.
nathan Shwartz	98027	405 W Minster Ave
Luan Marks	49120	122 Silsbee Street
ELSIE JOHNSON	96089	shasta lake ca
Barry LeBeau	02909	84 Marshall St.,Apt#1A
Morgan Stuart	12008	19 1st. Street, Alplaus, NY
Debie Rasmussen	95966	Oroville
Marlies Jansen	59757	Boschekampstraat 71
Joan Kleban	97402	966 Jackson
Lydia Scott	97405	30764 Koinonia rd.
Matt Denner	50310	2819 Holcomb Ave
Erin Rowe	95521	1984 Leslie Ct
Kimberly Landis	43119	5463 Bentonhurst Ct.
Matthew Bueno	96003	13839 Creek Trail
Ted Sison	94597	31 San Luis court
michelle blackburn	90042	5672 1/2 york blvd
john cole meeker	94572	708 Gravenstein hwy N
Jim Brown	96067	722 Meadow Ave.
Amy Bumpus	43082	6316 Charmar dr
Katherine Falk	94611	62 Entrada Avenue

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Name	Postcode	Address
Amy Parscal	96011	P.O.Box 225
Fred Joyce	95402	PO Box 15227, Santa Rosa, CA
Pauline Girvin	95470	P.O. Box 73 Redwood Valley, CA
amber hoadley	94956	box 605
Leslie McCoy	94619	4261 35th Ave
Alicia Siu	95616	406 Scripps Dr, Davis, CA
Jane Hamby	96094	PO Box 651 Weed, CA
Justine Devoe	96002	1100 Echo Road
Lucy Elphick	95627	25944 Craig street
Tyler Gibson	97520	Hwy 66, Ashland, or
Ramon Montano	92105	4161 37st apt#8 San Diego California
Christina West	95454	Bix 1663
Kara Brinkman	97402	1300 Quaker St
George Cammarota	95129	4646 Corrida Circle, San Jose, CA
JOHN BRENNAN	96094	3715 Dale Creek Rd,
Nicole Woodruff	02809	23 Dolly Drive, Bristol, R.I.
Harmony Lambert	96087	PO box 403
Jennifer Wilks-Christian	96067	502 Berry Street
Vanity Willette	85637	12 Pinto Trail
Martha Perkins	91107	1443 Edgecliff Ln
Margret Wrennstad	41666	Borgaregatan 14
willie mitchell	07198	13 bunholvil
mary villa	94115	1040 Divisadero
resa sawyer	87712	box 59 buena vista nm
Tanja Lehmann	81245	Kaspar-Kerll-Str. 19
Jerry Gilreath	30223	1105 Lake Avenue
Dan Kegebein	98582	P.O.Box448
Gisela Pook	78467	Bismarcksteig 10
harry bishop	95213	po box 32022
Summer Szymanski	95690	PO Box 852
Ann Roach	73127	4600 NW 11TH ST
terri vandehey	97048	68370 Meisner Road

Name	Postcode	Address
Ban the Dam - Unethical Raising and Dam No More	60001	*
Therese Coupez	94110	2843 Harrison St, San Francisco CA, USA
Angela Rex	95563	Po BOX 501
david nathans	43119	5451 bentonhurst court
Mariamamma Jones	97405	1971 garfield st
Christine Frisco RN	94301	649 University Avenue
Carol Luther	94960	21 Oak Ave.
Pat Shirley	87529	## Mirlo Dr
Brenda Andresen	97330	1705 NW Taylor St
belinda gould	33815	520 mathew rd.,lakeland,fl.
Darlene Lee	97633	135 N Elm Street, P.O.Box 532
MARY ODOM	39466	194ICHARDSON OZONA RD
george koch	95051-5604	2808 rebeiro
Kouslaa Kessler- Mata	93953	2807 Forest Lodge Road
Larry Rhodes	60041	26041 Marshall Avenue
fred rinne	94112	642 cayuga ave san francisco ca
Nancy W Gin	94109	923 Eddy St #107, San Francisco, CA
susan fanter	62024	502 Harper Court East Alton,IL.
Ashley Hall	95959	15169 Lewis Rd.
Claire Coupez	98070	P.O. Box 2176
Nicole Letscher- Bartholomay	96067	4115 Hummingbird Way
springwater ocoee	47112	1341 hillview dr,corydon,in
Peter Tennigkeit	95472	216 florence ave
Byron Roberts	95207	5234 Grouse Run Dr
Daniela Koromzay	94930	17 Redwood Rd, Fairfax, CA
laura beebe	95570	Po box 2057
roberta wagner	08051	731 Garrison Ct
deanna arnall	65256	7505 w stidham rd
Rose Madrone	95560	box 193
Allan Reaves	96067	General Delivery

Shasta Lake Water Resources Investigation
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Name	Postcode	Address
kristen witkowski	11789	8 stewart rd
Elora Young	30276	437 McIntosh trail
Frank Putnam	97209	Portland, OR
kellie st. james	95519	1817 holly dr
Allie Coleman	96067	627 Everitt Memorial Hwy
Melinda Perlman	96037	Box117
Nichole Albright	97404	1201 Maxwell Road
E. Rodriguez	10963	Mountain RD
Marilee Bittner-Fawcett	98524	1541 E Treasure Is Dr
Deneen Peckinpah	97520	569 Clay St.
Holly Ducharme	34113	5697 Rattlesnake hammock rd Apt.C101
Thomas Lester	74434	PO Box 264 Ft. Gibson,Ok.
Robert Shearer	95521	Diamond Drive
Gaylord Hughes	95549	1980 Greenwood Hgts. Dr.
Samantha Langley	95503	3328 G Eureka, CA
Cynthia Russell	96067	1612 Holiday Lane Mount Shasta Ca
Rebecca Manion	95501	1336 A Street
Karen Hill	32667	PO Box 445
Christina Ahlstrand	94618	5816 Ocean View Drive
lynn duncan	47012	28734 maune rd
Stacie Meredith	95687	1084 Ruby dr
Clifford Delmar Leach Jr.	95316	4601 Swanson Rd.
John Brennan	97212	822 NE Hancock ST
Lisa Rowe	95960	26798 Wampur Way
Lynda Fullerton	98584	Shelton, WA
Ann Altstatt	95060	203 Cedar Street
Mark Motyka	96039	3334 Indian Creek Road
ginger cloud	97405	2930 Charnelton
Jennifer Parrish	95125	593 Dorothy Ave
maureen roche	95558	petrolia
Lynn Jenkinson	48198	2910 Stommel Rd

Name	Postcode	Address
Ildiko Cziglenyi	95570	712 8th Ave.
Kris Farquhar-Naeyaert	95677	6055 Placer West Dr. Rockin, CA
Lloyd Hauskins	95560	POB 665
Sebastian Vido	94547	133 Manzanita place
julie I. solarski	95821	3545 Edison ave #3 Sacramento ca
lynne nourse	94931	p.o. box 7643
Bob Williams	76272	2271 W FM 922
caroline downie	96025	306 riverwood lane, dunsmuir, ca
Melanie Clement	96003	705 Country Oak Dr.
Lucy Rodriguez	27514	145 Erwin rd
Rosemary Clement	96003	705 Country Oak Dr.
Jaya Clement	96003	705 Country Oak Dr.
Jim Lockhart	97266	4528 se 99th
Angela Parrinello	94118	318 12th Ave
susan wesley	86004	2024 n 2nd st
Rogene Reynolds	95206	4444 W. Undine Road
Lorraine Hersey	97801	4223 SW Broadlane Ave
Frank Riehemann	82467	Hauptstraße 48, Garmisch-Partenkirchen, Germany
Michelle Steinberg	94609	693 33rd Street
Cameron Baxter	94118	2325 Cabrillo
Michael Kavanaugh	95545	P.O.box 104
debra daniel	19335	35 kennedy drive
Tara Russo	87507	3740 Academy rd. St. D
Mitch Collins	18914	219 Cambridge Place
Rosemarie D'Ostilio	96067	206 E Hinckely St Mt. Shasta, CA
Karen Ratzlaff	95404	645 Carr Ave.
Kristy McCurry	95926	1315 Palm Avenue
James Baker	36804	2225 Lee Road 117
Donna Boyd	96067	314 Sheldon Ave
Kathaleen Reed	95812	PO Box 2144
Sara Pawulak	95519	1400 Underwood rd
Anthony Leach Sr	95603	141 Boardman Street

Shasta Lake Water Resources Investigation
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Name	Postcode	Address
Allan Gehman	96001-0933	540 South Street #58
Jeanine Ertl	95589	11000 Briceland Road
Leslie Craig	95503	4701 Crane Street Eureka CA
Jennifer Ayo	95521	2575, alliance rd 13-c
Paul Eggers	95942	PO Box 445, Forest Ranch, CA
L Shaw	96007	millville
Gordon Anderson	95521	1560 Peninsula Arcata, CA
Robert Billstrom	95521	988 9th st, Arcata, CA
Sean Sampanes	96092	1013 Layton rd
J P	95521	355 Granite Ave
Joanna Welch	95501	2925 Lowell
Paul Cavanaugh	95971	345 Main Ranch Rd
Daniel Dempsey	95503	5087 Meyers Ave.
Sara Trechter	95926	736 Oaklawn Chico, CA
mason mckibben	95519	742 gross st
Courtney Scott	97232	2106 NE Flanders, Portland, OR
Joaquin estrada	95521	145 12th st
Adela Myers	95956	PO BOX 261
Julianna Elias	96080	16145 Red Bank Road
David Hurst	95926	1311 Fairway Alley
Darcia Slape	96002	20020 falcon drive redding, ca
Lisa Butterfield	95501	2440 Wood Street
karyn parker	83686	2903 laurel way
Bob Atwood	96003	248 Boulder Cr Dr #8
timothy may	96022	22366 river view dr, cottonwood, ca
Ron Kuhnle	95501	1604 G ST
Penny Garrett	96003	851 Mission De Oro Drive
Mary Able	96056	535-000 Little Valley Rd.
Juniper Hobson	95928	4722 Cable Bridge
Robert McCombs	95518	PO Box 4175
Michael Terry	96007	PO BOX 1019
Peggy Loe	95954	13516 Tufts Court
Steven Wadas	96067	416 N. Washington Drive

Duplicate DEIS Public Comments

Name	Postcode	Address
shari brown	95966	68 Long Bar Ct.
Jessica Black	93265	40831 Balch Park Rd
Mary Thomas	96094	5018 Solus Place
Elaine Kane	95540	1751 Home Ave
michele stainback	96926	1628 spruce avenue
Orle Jackson	96080	19873 Hwy 36 W, Red Bluff CA
Karen Anderson	96058	P. O. Box 373, Macdoel, CA
Jeanne Ertlr	95926	1552 Citrus Avenue
Jane Merkel	95503	833 Everding Street
April Wagner	96093	box 1336
Sue Lindgard	96050	P.O. Box 57
raymond ellggi	96080	1155 jefferson st.
Claire Robbins	95501	2542 Hubbard Lane, Apt B
Judith Benbrook	95490	2745 Coyote Road
Shilo Quetchenbach	95521	1351 H st #5
Lyssette Rodriguez	95521	335 Laurel dr.
Forrest Lamb	96025	5404 Shasta Avenjue
Ron Smith	95928	5332 Finnicum Rd
Lyn Walters	95956	P.O. Box 157
Juliet LaFleur	95928	955 Madison St
David Page	96003	4282 Baywood dr redding ca
Bayla Greenspoon	96067	724 Butte Ave, Mt. Shasta
Audrey Kapitan	95409	4 Quixote Court
Davin Peterson	95501	2846 Lowell Street, Eureka CA
Whitney Allen	96002	19731 Valley Lane
Jeff Gemutliche	96003	4470 Swallow Tail Ct.
Marilyn Shepherd	95570	PO Box 715
William Peace	95969	5228 Squire Ln Paradise Ca
Daniel Steward	95973	4 Elverta Circle, Chico CA
Virginia Jaquez	95947	P.O. Box 172
diana Nielsen	94525	419 vallejo st
Gura Lashlee	95519	2580 Central Av. #38
Lorenzo Durham	95969	1417 Andrea Ln, Paradise, CA

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Name	Postcode	Address
Virginia Felter	95519	550 Hunts Drive
Noel Phares	95969	1374 McCullough Dr
David Tamori	95966	111 Putman Dr
Terri Mattson	96086-0513	PO Box 513
Gerda Lydon	95973	2948 San Verbena Way
Carol Mone	95570	Box 223
Mark McCandlish	96002-0511	2205 Hilltop Dr. #158, Redding, CA
Samala Ray	95501	217 D st #310 Eureka Ca
Patricia Purcell	95969	5436 Clark Rd #44
Marietta Sheffield	96001	3705 Riverview Drive, Redding,
James Kirks	95973	11 Hemming Lane
carolyn galindo	95502-0488	p.o. box 488, eureka CA
Alan Sund	95926	1675 Manzanita Ave #82
Jody Bond	48864	Jody Bond
Carolyn Doty	96002	662 Estate St
Phil Reser	95926	1301 Sheridan Ave. #27, Chico, CA
Suzanne Simpson	95518	POB 309 Arcata, CA
Judy Haggard	95519	1237 Gross St.
Nat Childs	95553	PO Box 511
Karen Raskin	95549	970 greenwood heights drive kneoland, ca
Brien Brennan	96080	7200 South Fork Drive
Darrah Hopper	96020	PO Box 186
GeneAnna McMillan	95926	2040 Vallombrosa Ave.
matthew mckibben	95926	2311 holly ave
Mirislav Liska	95519	1240 Ian In
Lynette C	92128	1526 Esperanza Way
Ricky Pisanu	95602	5275 Morningside Ave, Auburn Ca
DANIEL MCELHERAN	96093	200 BUTTONS RD
Margaret Grossman	95521	2778 Buttermilk Lane
Marilyn Sanborn	96069-9506	27445 Lookout Mountain Lane, Oak Run, CA
Sandra Lee Childs	95553	Miranda, CA

Name	Postcode	Address
Terril McHardy	95916	50 Simpson Ranch Rd
Wilma Dibelka	96094	5238 High Meadow, Weed, CA
Terry Ferguson	96137	304 Delwood Street
Holly Barnard	95490	P.O. Box 565
David Lee	95928	983 E 7TH ST
larry glass	95552	PO Box F
Kathleen Kelcey	95519	1090 Murray Rd space 45
jacek ernestowicz	78-100	walki mlodych
Luana Mauer	97426	84820 Cloverdale Road
Deborah Kvaka	95454	POB 1324, Laytonville, Ca
George Wilton	95965	1326 Grand Ave.
harriette searle	95983	5518 fir fork
Lynn Miller	95954	6277 Brevard Circle, Magalia, CA
Cynthia Husten	96001	2106 Butte Street
Robert White	95521	2750 Terrace Ave
Debbie Harrison	95519	2423 Bolier Ave.
Craig Olson	96003-3539	800 CHRISTINE AVE
Rick Boutin	96080	1364 Walbridge Street
Carol Lawrence	95519-3448	1090 Murray Rd #66
laurey morris	95501	1417nigellane
Mark Bailey	95549	7636 Kneeland Road
Jessie Ayani	96067	1431 Pine Grove Drive
Jon Behnke	95454	P.O. Box 631
Katherine Maxey	95503	6828 eggert rd
Ronald Goff	95954	6312 Shelton Ct.
Clarence Hagmeier	95558	POB 9
Anne Nicksic	95540	1104 Stewart Street
Elaine Nichols	59301	405 MISSISSIPPI AVE
Sandra John	95928	1420 Half Dome Way, Chico
Angela Gerard	47401	3259 East Will Sowders Road
Gale Swearinger	95939	3600-09 Phils Way
Susan Coffi	96137-1223	P.o. 1223
Rosa Rashall	95589	PO box 153

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Name	Postcode	Address
George Dibelka	96094	5238 High Meadow Drive
Joan Martien	95521	1029 11th street
john crandell	95519	401 wagle lane
Timothy Hafner	95503	3800 Mitchell Rd
Michael Tonetti	95973	470 Chestnut Rose Ln
Virginia De Vries	95490	4260 Blackhawk Drive, Willits CA
Sherrie Gadreault	96002	2650 Bunker St. #1
Frank Letton	95589	POB 294
clare fisher	95926	477 e sacramento ave
cynthia olen	95501	2214 Fairfield St., Apt. 3
Sandra Bacon	95503-7608	4343 Walnut Dr
Wendy Crist	96025	5914 Mountain Ave
Ashalyn Ashalyn	96067	416B Alder St, Mt. Shasta, CA
pat pearson	96027	4320 shell gulch
John Scott	95965	4370 Tao Way, Butte Valley, CA
Alan Sanborn	95521	1491 H St
Sally Cooper	96067	304 S Mt Shadta Blvd
Larry Bailey	96099	P. O. Box 992480, Redding, CA
Tandra Froehlich	96022	3465 Brush St Cottonwood CA
Sandy Mitchell	96067	1020 Kingston Rd., Apt. 7B
Karen Mayer	95503	4552 Mitchell Rd. Eureka
Kathleen Faith	95928	2188 Honey Run Rd
Makere Aroha Chapman	98460	Whitecliffs, New Zealand
mike Evans	96007	2777 flagstone ct
Carrie Smith	95928	1660 Humboldt
Sandra O'Neill	95928	1232 B Oakdale St
donna espsoito	95528	box 288
Shereen Smith	95542	11815 Alderpoint Rd.
Marcia Fiamengo	95691	1969 Linden Road
Melissa Birch	95502	PO Box 6770
James Robinson	95560	pobox2382
Casey O'Neill	95546	p o box 20

Duplicate DEIS Public Comments

Name	Postcode	Address
Deirdre Santaniello	95490	26590 Daphne Way
Shirley Fannin	95973	2601 Nord Ave.
JENNY ORCHID	95560	PO BOX 302
Valerie Fannin	95973	2601 Nord Ave.
Rick Underhill	30513	678 Ash Loop Road, Blue Ridge, GA
N Courtemanche	95536	1335 Rose Av.
Philip Lee	96059	31695 Forward Rd Manton CA
Cheryl Gravitt	30303	321 Lee Rd.
Dana Wullenwaber	96001	2442 California Street
David Grau	95926	773 Sierra View Way Chico CA
Jorge Arguello	96003	1550 Barbara Rd., Redding, CA
Terry Crary	96019	3304 Shasta Dam Blvd
Joyce Ballard	39567	922 Quail Meadow Drive
Barbara Small	95514	29191 Alderpoint Road,Blocksburg,California
Andra Stringer	95540	1668 Justice Ct
Delbert ONeill	95546	po box 20
Mary Benson	95973-0729	701 E Lassen Ave 116
Jennifer Marx	96014	424 Sugar Creek Road
Gary Pelton	96002	2040 Hilltop Drive Redding CA
Lydia Plaster	95965	22 Bob Way
Piers Strailley	95971	P O Box 3012
Philip Winkels	95454	46641 woodman cyn rd
Mikal Baker	95521	986 C St
Mary Stone	96064	11800 Hart Rd.
kimberly smalley	95502	po box 146 eureka ca
Mary Davis	27712	5301 Falkirk Drive
Cary Frazee	95503	499 Redmond Road
Kay Schaser	95501	2701 Erie Street, Eureka, Ca
Al Pantalone	96003	2173 Hope Ln.
Dr. Robert Bowman	95926	1220 Glenn Haven Dr
Karen Delangelo	95540	821 14th Street
victoria schanzle	95553	408 Thomas Rd

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Duplicate DEIS Public Comments Appendix

Name	Postcode	Address
William Skupowski	95966	105 Pinedale Ave
Ralph Privette	96088	30567 Thumper Dr
Betty Rowland	96013	20420 Poplar St
linda robinson	63114	9410 ridge overland mo.
christopher kirkland	60098	2563 Linden
Laura Rhoades	95476	Sonoma creek
sharon porter	95969	4827 Round Valley Ranch Rd.
Janice Stout	96055	24826 Taft St
Julie Haynes	96091	HC 1 Box 613
Sarah Morris	95926	518 W. 6th Ave.
Michael Celayeta	96039	P.O. Box 425 Happy Camp, Ca
Richard Hand	96035	7815 State Hwy 99 W
Kyle Drennen	96067	035 Davis Place Road
hugh liles	95519	2595 kelly
Jill Gardner	96067	POBox 473
Penny Schafer	96067	825 Aiello Road
Loren Madsen	95454	PO Box 1824, Laytonville
Karen Scarborough	96003	3546 Old Lantern Drive
carol rogan	96093	po box 1126
Ariel Graham	95521	1959 Ernest Way
J SpottedEagle	87413	80 Rd. 4992
Sandy Sweitzer	95521	2066 Mustang
Claudia Weber	95926	22 Williamsburg Lane, suite G Chico ca
Lloyd Downs	95954	14766 Pine Cone Way
Carolyn Grill	28411	1004 Potomac Dr., Wilmington, NC
Susan Cliff	96067	PO Box 1332, Mount Shasta, CA
Yvonne Redd	96130	479-395 Tako Nee St
Taylor Branson	95949	11810 Iodestar dr grass valley ca
JuLeah Willson	98052	15920 NE 101st court
Peggy McGuire	96035	2351 Stone Ave. Gerber, CA
Donna Clark	96130	708 Plumas St., Susanville, CA
Sylvia De Rooy	95503	210 Pomeroy Hollow

Duplicate DEIS Public Comments

Name	Postcode	Address
Frank Wilkens	96002	4050 Aspen Springs Ct
Beth Shipley	95521	1579 13th St., Arcata, CA
christine schlumpf	96003	19900 sunbeam circle
william malinowski	95589	1261 toth rd.
ROBERTA REPASZ	48822	P.O. Box 53,Eagle, Mi
Peter Norris	95490	27660 Poppy Drive
leo schlumpf	96003	19900 sunbeam circle
Justin Zakoren	95503	3220 Pine St.
Mickey Fernandez	95490	1448 Daphne Drive, Willits, CA
Coleen Marks	95555	PO Box 295
robin keehn	95926	273 e 3rd ave
Ja Miller	95973	146 Sleepy Valley road
Nancy Olson	96067	Mount Shasta
toni casto	95965	471 grand ave
Ken Miller	95519	1658 Ocean Drive
George Bates	96052	321 Clark Creek rd
Frank Toriello	96064	6635 Willow Creek Road, Montague, CA
Julie Cook	95490	28300 Skyview Rd
George Thorward	96039	4919 Indian Creek Rd
Jennifer Ferrini	95926	1890 Hooker Oak ave
karinajoy McAbee	95490	1517 casteel dr
Brian Humble	96003	1396 Minder Dr.
Monica Coyne	95560	p.o.box 1178
kendra guimaraes	95540	1955 scenic dr fortuna ca
Tom Patton	95928	11 Skymountain Circle
Chad Oliver	96067	705 Caroline ave
Cheryl Corcoran	96003	1290 Deodar Way
Joni Stellar	95965	2965 Madre De Oro Pl
Vivian Garcia	78231	2935 Green Run Lane
Martha Walden	95524	po box 325, Bayside
William Cortez	96091	111 N. Lakeview Dr. Trinity Center
Gina Lindow	97540	113 N 3rd st. #2

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Duplicate DEIS Public Comments Appendix

Name	Postcode	Address
windwolf woods	97477	73 v street
Sue Mendez	95954	6475 Loyola Ct
Jerry Peavy	95926	2111 Algonkin Ave. Chico Ca.
shelley o'neil	96092	po box 259, vina, ca
michael mclaughlin	95967	po box 1232 paradise ca
Karin Anderson	96041	P.O Box 1183 Highway 3
joyce tierney	19904	8 freedom pl.
melinda willey	96067	517 Shasta Way, Mount Shasta, Ca.
kathleen McCovey	96039	PO Box 53 Happy Camp, Ca.
Gene Latimer	97214-4848	1704 SE 22nd Ave
Mark Vargas	96003	11912 Best Ln.
Steven Westbrook	95926	1321 palm ave
Agleska Cohen-Rencountre	97438	39701 Little Fall Creek Road
Allan Stellar	95965	2965 Madre de oro place
David Menefee	96041	PO Box 1183
Ada Ball	97457	P.O. Box 1916
DAWN FAZENDE	96067	POB 443
Serena Seidner	96067	3724 Summit Dr.
Tammy Robertson	96067	1339 Stellar
Glen Yonemura	95632	620-Third St.
TOM BRANSON	95949	11810 Lodestar Drive
Anita Brady	96003	12076 Fawn Dr.
Sean Payne	95501	601 W. Wabash Ave unit B
Susan Whitney	95570-0793	P.O. Box 793
Susie Foot	95519	1873 Cliff Ave
Jennifer Krause	96067	1934 Deetz road
Terri bradley	96002	1244 Heavenly Oak Ln # 1
Christina volanos	83642	132 w. broadway ave meridian id
ted lindsay	95501	2141 Tydd St #223
jerry batcheler	95965	703 Oro Dam Blvd W #205
Don Swall	95501	1140 E. St. Eureka
viola long	95546	p.o. box 1096

Name	Postcode	Address
Dylan Fuentes	92627	1124 Victoria St
Bonnie Daut	98030	10914 SE 240th PI D202, Kent, WA
Mark Trechter	20152	25483 Feltre Terrace
Bruce McKinley	96094	8936 Blue Jay Lane, Weed, CA
Ruth Lown	96021	6401 Santa Clara rd.
Joan Barrymore	96088	PO Box 227
Suzanne Guerra	95503	4771 West Wing Lane
T Beaulieu	96003	12171 Cinder
William Huber	96046	P. O. Box 1
Liam Humble	95405	2627 Lago Oaks Dr.
ann Souter	95519	1101 Silverado Ave
Wendy Harden	95542	P.O. Box 446
Troika Saint Germain	96067	PO Box 733
Carol Hanrahan	97470	812 Shadow Ranch, Roseburg
Mark Goodwin	95969	6217 Forgotten Way, Paradise, CA
pascal hudon	95959	10580 rimrock ln
Christine Martin	95973	13 Discovery Way
Jenna yonemura	95660	3710 Bainbridge drive
Jean Nels	96067	240 Smith Street
Lisa McEntire	73401	3120 Carter
Vincent Kessinger	96001	1735 Wisconsin Avenue
Tom Handman	96035	7371 McClure Ave
Jill Kane	96001	3620 ALTURA AVE, REDDING CA 96001
Marzanna Pietrowska	95524	3420 Old Arcata Rd Bayside Ca
Lawrence Williams	95570	P.O. Box 793, Trinidad, CA
Gregory Byers	95490	15000 Hearst Road
Sylvia Cardella	95547	4570 Bluff Top
Jacintha Stanley	86033	PO Box 1906
Donna Bringenberg	96067	POB 669
Sunny Hawk	95521	2255 Alliance Road, Apt.26
Jean Cannon	96073	PO Box 426

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Name	Postcode	Address
Manuel Mora	96067	PO Box 862
Patricia Beardsley	94118	566 Third Avenue, San Francisco
Jessica Shleman	95503	3223 E Street
Ladis Yrazusta	96097	15538 Valley View
Martaa Hutz	96067	1541 Frederick St.
Jon Spitz	95454	Laytonville, CA
Ralf Hahn	95966	Oroville
Jeffrey Stone	96097-9030	909 Bennett Dr
Samuel Lundeen	95570	597 Old Wagon Rd.
Pearl Brady	11217	444 Bergen St #2R
Vicki Brenner	96067	P.O. Box 1145
bob h0SKing	95988	426 4th st wiilows ca
susan Alexander	95560	P>O>Box 61
dorothea joyce	96067	404 N. Mt. Shasta Blvd. 131
Sam King	95519	2626 Elizabeth Road, McKinleyville, CA
Lorna Bartlett	95928	500 E 12th St
Greg Movsesyan	95519	282 Old Quarry Lane
Rena weiss	96067	pobox 671
Kate Yorke	96067	.O. Box 1383
Marc Williams	96027	POB 481 Etna, CA
Sylvie Matalon	97405	Eugene
Jerry Pruce	95560	P.O.Box 2349
Rev. Jisho Perry	96067	3724 Summit Dr.
stacy gilbert	97525	1538 rogue river hwy
Ethan Rogers	95926	838 Morninghome Ct
Suzanne Cook	95519	2584 Knox Cove Dr
Michael Deshler	95973	1456 Saratoga dr
Helen Young	95404	1073 Fulkerson St. Santa Rosa. Ca
Jeanne Thatcher	95926	P.O. Box 3204
Stephanie Hillman	95518	PO Box 4166
disa boracci	96003	21273 albatross way
ankush vimawala	97477	213 W D St

Duplicate DEIS Public Comments

Name	Postcode	Address
KaNi Kido	94930	9 Pacheco Ave
margaret mehring	78006	9142 aqua dr
Ken Lawson	95973-9048	61 Mud Creek Road, Cohasset, CA
marianne williams	95549	greenwood hts. dr.
Gary Mantei	96002	2855 Henderson Rd, Redding
Lisa Brown	96058	13717 Tennant rd.
Mary Jean Watson	95531	1205 Dundas Rd. Crescent City, CA
Peter Childs	95553	CA
Kim Merlino	96067	1109 S Mt Shasta Bld
Cris Smyrnos	96067	330 Pony Trail
Alan Ernesto Phillips	96003	1111 Macs
Debbi Freeze	96067	525 Pine Street #8
Jere Bob Bowden	95536	Ferndale CA
Arthur F. Bravo	94559-1156	1439 " E " St. Napa
johnica love	95927	po box 266
Alba Miranda	95928	Lassen
Glen Sharp	96080	2040 Pebblestone Dr. Red Bluff, CA
Wendy Carney	95570	1030 Westhaven Dr S
Weston Ball	90210	1234 etmibalz ct
Ineke Wild	90210	Nonneveld 138
Mary Zellachild	95490	39 Mill Creek Dr.
George Wheeler	95519	1807 cliff ave
Robert Davis	95503	California Street, Eureka
Theresa Story	96003	821 St Marks Spc 33
Mary White	14850	114 Sears
John Hale	95969-4236	5921 Debbie Ln., Paradise, CA.
Kathryn Black	93265	40831 Balch Park Rd
Lanai Winter	95928	2050 Springfield Drive
Michelle Burris	95519	1336 Winchester Ave
Samad Najjar	95954	14188 Sherwood Circle
Eileen Brownell	95928	153 Picholine Way
Margaret Hollenbach	98382	Sequim, WA

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Name	Postcode	Address
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chris dawes	95973	782 Lindo Lane
Michelle Strozier	74804	200 East Georgia
Sherry Watts	95558	36332 Mattole rd
Robert Astrue	95570	PO Box 1188 Trinidad, CA
James Paquin	95518	PO Box 573
Jeremy Jensen	95501	Po box 877 eureka, ca
Mercedes Koehly	95973	1588 Arch Way
M English	95969	Paradise
Peggy Elliott	97530	410 S. Oregon St.
Liz Zanze	96001	2726 Dawnridge Drive
Cameron James	96022	19643 Indian Creek Dr
Julie Nelson	96003	12825 Encanto Way, Redding CA
Hayley Peter-Contesse	95521	1875 Iverson Ave A
Abigail Den	96067	1571 Village Way
Evelyn McCahon	96019	2115 Montana Avenue
Yvonne Hatch	95490	23 Creekside drive
Lorena Cedergreen	95521	1395 Glendale Drive
Michael McLaughlin	95502	337 West Clark
Joel Hawthorne	95966	148 Spruce Parkway
Jeffrey Stewart	96047	PO BOX 294
Beth Bennion	95519	1594 Railroad Drive
Cyn Van Fleet	95527	PO Box 98
Barbara Orme	95973	139 Cohasset Loop
Wayne Swan	96049	PO Box 493159
James Ritchey	37920	4209 Coffey Street #5
Geneva Omann	96094	Weed, CA
Roger Osborne	96003	1095 Hilltop Drive
Susan Stauffer	95490	487b East Valley Street, Willits, CA.
Soren Nelson	96003	12825 Encanto Way
Sara Lyon	95490	IPO Box 2077
Dawn Wells	96094	5116 Spear Pt

Name	Postcode	Address
Sean Corfield	94546	5124 Ray Ave
Robert Ward	95965	555 High Street
Loretta Adcox	44102	1887 W52nd street
Dennis Wickes	95969	295 keffer lane, paradise ca
Nicole Caputo	95503	295 Bacchetti Ct
Sara Crayne	96067-2715	214 Merritt Ave. Mt. Shasta
Jaime Yarbrough	95567	PO Box 556
Leland Whitlock	95938	9197 Goodspeed St Apt 6
Ornella Addonizio	96080	70 lindauer lane red bluff
Jourdyn Bossio	95476	192 Sierra Pl
rochanah weissinger	95973	2910 morseman #A
Pat Andrews	95546	pro box 640
elisa conte	02835	126 hamiltona ve
Claire Perricelli	95501	2259 16th
Natalie Blasco	96007	19075 River Crest Dr
Shirley Ramstrom	96002	2451castlewood dr.
Albert Wedworth	95926	2384 Tiffany Way Chico, Ca.
Pat and Bruce von Alten	96097	921 Campbell Ave, Yreka
Donna May	96097	625 Butte St
Barbara Brumley	95969	6908 Sesame Street
Susan Bradley	95454	PO Box 52
Leslie Marconi	96068	207 Gaudenzio
Marguerite McDonald	93546	51 Pinon Dr. #b
Karen Duncanwood	95969	6656 Pentz Rd. #56
Shannon Robertson	94040	191 e el Camino Real 236
shara jay	95503	eureka
Bob Wagner	96027	Etna, CA
Ann Thompson	54880	2017 Ogden Ave
Brenda Sherman	95973	3143 Hidden Creek Dr
Pamela Cundy	96067	P o box 1692
Miguel Insignares	33331	Opal Creek

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Tacey Hatfield	96003	21684 Elk Trail West Redding, CA
Kimberly Tays	95570	P.O. Box 75
Phil Seymour	96003	4500 Alder St Redding, CA
Ronalee Phares	95969	1374 Mccullough Dr.
Faith Boyarin	96094	2331 Lakewood Ranch Rd.
Eva Adams	95003	112 El Camino del Mar, Aptos
jeff pruden	95501	ca
michael macdonald	95454	p.o, box 882
Lionel Ortiz	95524	2820 Graham Rd
Lewis Elbinger	96067	712 Om Shasta Path
JUDITH BENOIT	49345	1383 Meadow Park Dr
Michael Adams	96097	919 North Street
Peter Westfall	95503	3235 H St
Pat McCutcheon	95521	1630 Buttermilk Lane
Carla Resnick	95973	3010 Alamo Ave
alita angell-murray	96019	3876 wellington place
Norman Carpadus	96054	PO BOX 226
Tom Stover	97322	2186 geary #1
Roderic Stephens	96001	1787 Lakeside Dr.
Anne-Marie Heupink	68410	Enschede
Helen Winfrey	95540	525 Garland Ave.
RALPH RING	95969	1749 EDEN ROC DR. PARADISE,CA
Ted Hoffman	96032	8433 N. State Hwy 3
Stephen Jessen	95560	P.O. Box 2371, Redway, CA
Edmund Light	95501	3824 Jacobs Ave. #32
Mauro Oliveira	96065	Box 225 Montgomery creek
melinda groom	95525	po box81
Yolanda Guerra	94544	25053 Joyce St
Tania Borrás	95490	25630 Fairbanks Place
Jerry Sullivan	96067	1909 Eddy Cir

Duplicate DEIS Public Comments

Name	Postcode	Address
Ronald Lunder	96137-1174	P.O. Box 1174 Westwood, CA
Zoe Chapman	95589	P>O. Box 23
Tom Pava	96025	4212 Branstetter St.
Rick Kincade	96044	15634 Klamathon Rd, Hornbrook CA,
Doug Blackwell	96067	PO Box 511 Mount Shasta, CA
Ravell Moss	95519	1453 Harden Dr
Pat Weaver	95560	5719 Briceland thorn Rd.
Thomas Peters	95501	221 Dollison St., Eureka, CA
kelly keen	95521	4513 valley west Blvd. C
Bernadette Webster	95589	76501 Usal Road
Nancy Martin	05927	P.o. Box 1244. Chico, Ca
Virginia Eagan	95927	2412 Guynn Ave. , P.O. Box 6316
Jean Baker-Stapleton	95973	2668 Waverly Court
Helen Joseph	96001	7599 placer rd,
Lilo Ducommun	95454	Laytonville
Judy Pfandler	95969	149 Sutter Rd
Kim Chamberlain	95540	1751 Newburg Rd.
Mona Gutierrez	96067	1037 Lassen Lane
john alexander	95926	543 mission santa fe circle
stephen lyon	96011	po box 114
Molly Knappen	95969	136 Roe Road
Susan King	80228	2312 S. Braun Way, Lakewood, CO
Gene Slade	95966	20 Linda Loma Dr
Meaghan Simpson	95540	2401 Newburg Road
pat wolfe	96013	burney california
Sheila Dillon	56201	1701 5th St SW
Louis kimzey	33905	13231 Idylwild farm rd. fort myers
Karyn Smoot	97401	1790 Alder St.
Karen Scheuermann	96022	17455 Big Bear Lane
Mary Rogers	95966-6524	2595 C St.
Lynette Coffey	96019	4059 La Mesa Ave.
Kay Scovill	96067	Deer Creek Rd.

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Name	Postcode	Address
Arthur Scharf	96067	307Or Street Mt Shasta
Deanna Knickerbocker	94040	1846 Limetree Ln
Patricia Woods	97477	3033 Gateway St. Apt. #59
BARBARA Trumbull	96064	10812 Hart Rd
Mirabai Applegate	96067	1224 Davis place
juliana duncan	95519	985 Gross Rd.
William Mark Casebier	97386	1351 Poplar St.
Joseph Tonan	91764	207 E. J Street
Trisha Lee	95501	2425 C Street
Carol Wilson	95519	2004 St Maru Ln
Noelle Adams	95969	9289 Skyway # 30
fred lewis	96067	1409 highland dr.
Karen Feridun	19530	260 East Main St.
Karynn Merkel	95503	833 Everding Street
Chelsea Swick	95524	440 Solaris Lane
Valerie Romero	95971	1962 E. Main ST.Quincy, CA.
Lisa Zure	94960	221 The Alameda
Bob Stewart	95521	221 G Street
Michael King	97401	1390 Mill
Melanie Schneider	67213	1941 S.Hiram Wichita Ks.
Rose Armin-Hoiland	95524	2364 Graham Rd
leah childs sumerlin	97470	1115 s.e. roberts ave.
Eva Suhr	95928	1417 Ridgebrook Way, Chico, CA
Hannah Hawkins	30083	603 Tahoe Circle
Talia Fradin	94611	233 Capricorn Ave
Ethan Retherford	95501	1435 Dean St 7
harriet miller	96049	pob 493953
Haley Simas	95529	1805 Henry Ln. Mckinleyville CA
Carolee Tabori	95966	111 Putnam Dr
Katherine O'Neill	96094	4824 Rainbow Drive, Weed, CA
alexandra bacca	94621	851 81st ave

Name	Postcode	Address
Dan Bacher	95821-3713	3201 Eastwood Road
alison helton	97220	244 NE 92nd Pl
Leonard Incristo	96073	22086 WESLEY DR
Calvin Godfrey	51103	411 George St. Apt-1
claudia anderson	95662	9323 elm ave
Michael Wittman	91360	1332 Mill Creek Court
Alan Covey	95928	1747 Salem St.
Francine Fischl	95556	6955 IshiPishi road or leans CA
Robert Michael	95926	13 Glenoak Ct.
Mitchell Enfield	95501	2215 Tydd Street Apartment 7D
Phil Corcoran	96003	1290 Deodar Way
karine josso	41370	48 route de cravant
AniMaeChi drabic	93023	405 N Arnaz St
Jessica Stahle	84054	480 North Cloverdale Road
Stephen Lewis	95562	325 Center St., Rio Dell, CA
Jason Marrone	96067	1037 Lassen Lane
Loreen Silvarahawk	37354	499 Crowder Rd.
Cécile Simon	44000	Nantes
Robert Tait	95536	PO Box 247
Helena Pisani	94020	PO Box 224
beverly pyle	97402	835 tyler st Eugene OR
Asa Mittman	95926	5 Begonia Lane
Eileen Morris	95973	782 Lindo Lane
Ann Radwell-Newberg	95947	6260 N. Arm Rd.
Dale Thomas	95927	PO box 9191 chico, CA
Laurie Roy	95503	3401 Union St
Kenneth Kirby	96003-7912	2172 Sophy Place, Redding, CA
Michael Logue	95945	13149 Ridge Road
Scott Thayer	96003	14850 Lamoine Dr.
scott Love	95927	POB 5555 Chico, CA
Ralph Wadsworth	95973	13600 Gaarner Lane
Laurence Burdick	95521	1124 A St

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Name	Postcode	Address
Harvey Raider	95521	1383 Anvick Road, Arcata, CA
maia peter	05971	po box 324
William Gaylord	98112	2244 38th place east Seattle WA
Shannon Campbell	95926	970 Mathews Drive
Will Fulton	96059	PO Box 546
John Jeavons	95490	5798 Ridgewood Road
Jessica Hueter	95954	37 Mallard Ct, Magalia, CA
carl christenson	96097	709 Jackson
Ross Stuart	96067	528 Redwood Road
Kirsten Vinyeta	97402	1261 Tyler St.
Margaret Rooker	96003	215 Lake Blvd
Thomas Lyon	92056	2174 Palmer Drive Oceanside,CA
Julie Bacon	97401	491 w12th
Mary Stanleigh	95503	3360 E St
christa lowe	97402	2425 W 18th ave
Jane Rittenhouse	97405	2485 Tyler st
Chuck Acridge	95540	3378 Creekside Ct.
Chloe Adams	95973	315 Sycamore Dr
galen thompson	95927-4185	Box 4185
John Stewart	95560	P.O. Box 185
Tennielle Hughes	95963	4527 Co. Rd. FF 1/2
Uma Bingham	95501	2161 Fairfield
jessica jordan	95524	2182 old arcata rd
valerie donner	94596	20 Sutters Mill Ct.
JASON THOMAS	96019	3710 LAUREL ST
janet cook	95589	p.o box 535
Heather Chan	60615	5110 S Kenwood Ave. Apt. 606
judith porter	94619	3824 [- suter street
Amy Lin	91006	100 west orange grove ave., Arcadia
Laureen Oliveira	96065	PO box 225
Jan West	95570	PO Box 30
adene katzenmeyer	96094	5016 solus pl
Sarah Salisbury	95928	1262 Broadway. Chico, CA

Duplicate DEIS Public Comments

Name	Postcode	Address
rosa rodriguez	94404	catamaran
Melissa Crawford	95960	p.o. box 915
William Nelson	96067	P.O. Box 3
Dickie Magidoff	96013	20388 Hudson Street
Kathleen Caruso	95661	2020 Elk Rd.
Thomas Walker	95926	1670 Hooker Oak Avenue
Robert Van Fleet	95527	PO Box 98
Kevin Anderson	96003	11037 Erickson Way
Joanna Stewart	97401	336 Clark St.
Phaedra Kossow-Quinn	95521	343 G Street Apt D
Lilia Letsch	97403	E 16th Ave Eugene
Clifford Minor	95926-4522	336 Mansion Avenue, Chico, CA
Steven Hammond	95926	751 Brookwood Way, Chico, CA
Kristi Wrigley	95503	Eureka,CA.
Bill Allison	95519-8112	1340 filedbrook rd. mckinleyville,ca.
Kathleen Hurley	95928	2 Valley Lake Commons, Chico, CA
Paul Wilson	97401	1489 Cal Young Rd
Danny Hansen	96130	chestnut st
Ariel Wills	97402	930 W 17 st.
Sheila Barnes	96007	5850 Oak St Anderson CA
Stacy York	96019	4474 Arrow Rock Ave
Joy Hoover	93436	3395 Via Barba
Joy Hoover	93436	3395 Via Barba
natasha salgado	21122	5 maynard ave
David Zupan	97405	870 W 23rd Ave.
Janet Lambert	96067	211 Pine Ridge Ave.
Gillian Black	95521	1440 UnionStreet
Emily Meigs	95926	952 Karen dr
Megan Ireson-Janke	96044	18923 Cottonwood Creek Rd
Chip Elliott	96076	P.O. Box 51
Dennis Hanson	95540	577 berry ck ave
Ligia Giovannoni	95501	2145 C St.

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Duplicate DEIS Public Comments Appendix

Name	Postcode	Address
Sandra Goulart	95926	824 Brookwood Way
Janic3 Burton	14817	3058 Slaterville Rd
Lee Dedini	95524	1539 Irene St, Bayside, CA
mary carlisle	95969	12 olive branch lane, paradise, ca
Wick Humble	95973	3191 Coronado RD
Carol Kraus	96067	1020 Kingston Rd, # 2 B
Cindy Martel	96025	5809 Castle Ave.
Katherine Johnson	96067	209 Terry Lynn Ave
John Sanguinetti	96067	416 E Ivy St.
Diane Daily	97424	PO Box 1611
Mirranda Willette	97402	355 North Polk
Trudy Duisenberg	95928	4515 Ord Ferry Road
Joy O'Connell	96001	Chaparral Dr
Margaret Johnson	95501	1505 D St. Eureka, Ca.
Carol Callaway	94568	7512 Oxford Circle
G L LeBlanc	97405	2022 S Shasta Loop, Eugene, OR
Dawn Hill	95519	1629 Henry
Carmen Lemon	96052	PO Box 662, Lewiston, Ca
Corrie Galvan	95843	7916 Ivy Hill Way
Thelda Eli	95928	1985 Wild OakLn. Chico, CA.
alicia garcia	95570	po box 871
kathy gulledge	96019	po box 73
Margaret Andrews	95454	Laytonville
Julie Starita	97405	2195 Cleveland Street
Lori Vest	93546	P.O.Box 213
Michelle Berditshevsky	96067	1936 West Hill Road
s sawyer	95427	POB 189
Tina Bowhannan	37091	200 Tiger blvd apt 1-e
Susan Penn	95502	PO Box 1036, Eureka, CA
John Petersen	95573	POBox 3
geraldine teitelbaum	95542	363 Flintrock rd
Amy Lefevre	13413	27 Leard Rd

Name	Postcode	Address
linda roberts	95608	3720 kimberly way
Lea Betty	96130	720 Cameron Way
William HONSA	95501	3144 Broad
Zachary Medeiros	90807	3814 Pacific Avenue
Deborah Barney	94040	718 Cuesta Drive
Diane Beck	95549	3657 Greenwood Heights Drive
Carrie Sachs	96025	POB 771
Beverly Harlan	96067	1020 Kingston Road, Apt 3K
Gina Covina	95454	320 Mulligan
Pandora Kane	96067	510 Glen Mar Drive
Shana Fajardo	95825	2511 northrope ave. #4 sacramento ca. 95825
Denise Willey	96025	4412 Holly Ave
Eileen Banghart	96001	2956 Pawnee ct Redding, Ca
Mike Sheirel	96003	570 Viewpoint Dr.
Beth Brenneman	95454	PO Box 781
peter reinheimer	96067	p.o. box 471
Vicki Gold	96067	2102 Tanager Lane
Maressa Simmons	32304	1339 Airport Drive Unit H-7
Ambrosia Krinsky	95928	36 New Dawn Cir
Helen Pitre	95570	PO Box 919
David Hazen	97405	4349 Shadow Wood Drive
Paolo Nugent	98382	120 Sunland Drive
James Connolly	95926	1286 Glenn Haven Dr, Chico, CA
Marci Goulart	95928	435 Cypress St
Josie Cosentino	96099	Post Office Box 991077
Mary A Miller	97404	501 Division Avenue sp 58
Larry Levinm	95928	19 Comstock Road, Chico, CA
Beatrice Cox	95472	5219 Wendell Lane
Talitha Derksen	96051	19691 Statton Rd
Sandra Taylor	95969	625 Scott Dr.,
Jennifer Yun	22202	815 18th Street South
Foster Boone	96027-9414	25200 Sawyers Bar Road

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Duplicate DEIS Public Comments Appendix

Name	Postcode	Address
Joyce Plath	95521-5504	955 12th St
Lisa Mckee	32615	14901 NW 125 street Alachua fl
Jennifer Peterson	95573	po box 1392
matt beckham	95501	1134 third st
Jessica Huntzinger	95503	479 Howard Heights
shirlee Hall	60565	40 Harbor Cove
R Mulvey	95338	Indian Peak Rc
RICHARD JACKSON	95521	230 WARREN CREEK RD.
Mollie Wood	98006	15724 SE 46th Way
Kelly Dawn	95966	8145 Reservoir Road
James Theimer	96001	2065 Pine Street
sheila keene	60017	111 Spring Rd
Sarah Greene	97405	3050 Charnelton Street, Eugene, Oregon
Sunnie Noellert	95519	2822 Sandpointe Drive
Hilary Arakaki	96816	4268 Huanui St.
Leilani Sabzalian	97477	1166 Water St
Cali Dorsch	95521	355 Granite Ave. #4917
Norma Wilcox	95928	1998 Wild Oak Lane, Chico, CA
hazel holby	95988	610 e walnut street
Heidi Ramsey	96114	462-905 Jace Drive
Am Stenberg	95445	32500 S Hwy One
Sachi Kaneko	97401	532 Lincoln St. Apt C
Shaina Lerner	95501	1353 hoover st
Dominique Sirgy	94704	2833 Bancroft Steps
martha singer	96093	PO Box 3308
Lynn Hohenstein	30033	2975 Rosebrook Dr
Isabel Ayala	93263	590 Escalante Ave
E.V. Perez	78229	,
Cailin Riggs	95540	8th Street
Marcie Ligammari	95969	6100 N. Libby Rd.
Arvin Byington	93722-6344	3581 N. Sonora Ave. Fresno, Ca
Dianna Hunt	96003	20807 Lonita Trail

Duplicate DEIS Public Comments

Name	Postcode	Address
Terry Lawhon	96067	1604 Everitt Memorial Hwy
Pat Lind	96019	4215 Fort Peck st
K Sloane	95542	320 Road L
Harriet Behm	97405	3189 Lincoln St
gaile carr	96067	1821 eddy dr
richard wilson	95521	1972 zehndner ave.
Doug Busch	95926	1332 Sheridan Ave., Apt. 2
Sarah Heaston	95928	1724 Beech Street
Sarah Ross	97405	1804 grantst
Cynthia Marconi	96067	214 Eugene Ave. Mt Shasta, CA.
kevin connelly	94117	465 Scott Street, #3
Greg Taylor	95969	685 Van Fossen
John Roshek	96067	PO Box 1739
Charles Rauch	96001	791 Lakeview Drive
Dylan Cooke	94609	3911 clarke st
Laurel Heath	95926	645 Victorian Pk Dr Chico CA
darro grieco	95965	8 rocky drive, oroville
Dori Mondon	96067	1172b South Mount Shasta Blvd
James Nageotte	94707	1541 Portland Ave.
Martin Rivera	10456	Bronx, NY
Loraine Webb	95959	11110 White Oak Way
marion malcolm	97404	110 Mayfair Lane
Gayle Van De Koolwyk	96073	10715 Deschutes Rd
Sandra Hansen	96067	1010 Mc Cloud Ave.
Brian Paine	96094	2530 Dale Creek Road, Weed
Lana Fredrickson	95658	355 Lehi Ln
EUGENE SKWEIR	95519-9732	2902 McKINLEYVILLE AVE
karen reddin	96001	2611 sacramento dr.
Karli Nabours	96067	104 Siskiyou Ave
Mara Topazio	98227	4426 n haight ave
Kristina Groh	95971	P.O. Box 1147 Quinc. CA
Mary daniell	95928	9 Forest Creek Circle Chico,Ca

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Name	Postcode	Address
Elizabeth Daniels	95926	305 W Lindo Avenue, Unit C
HD Sumner	96064	4033 Upland Rd. Montague, CA
Paul Hurschmann	95926	922 Karen Dr.
Gaylene Bartlett	95726	5656 Daisy Circle
Linda McVarish	95454	P.O. Box 575
Ruthie Maloney	95548	190 Klamath Blvd
Ellen Manchester	94114	870 Noe st
stephen lorenz	95954	14786 northwood dr magalia ca
Lori Crockett	96067	PO Box 768, Mt Shasta CA
kathleen gain parker	96001	1705 Garden Ave
Coral R.	98110	1400 Camosun
Emily Kandagawa	96717	53-658 Kamehameha Hwy, Hauula, HI
Carol Eberling	95926	555 Vallombrosa Ave. #63
Tony Silvaggio	95519	1741 Waters Ave
Reba Holt	32405	2802 Stanford Rd
Kathleen Klatt	95536	PO Box 583, Ferndale, CA,
Allison Ofanansky	13401	POB 134 Tzfat Israel
John V Thorn Hart	95928	235 W 22nd St.
John Saunders	95204	2151 N Yosemite St,
patricia daniels	95521	453 bayside court
Richard Zoah-Henderson	95503	3904 Cedar #B
Robin Singler	96057	610 Wetzel
Lisa Vandertuin	95521	5018 Valley East Blvd. #E
Janice Morrell	96003	1860 Del Mar Avenue
Victoria Vance	95524	582 indianola rd bayside
Melanie Lyon	94602	3386 Guido St, Oakland CA
Marilyn Traugott	96001	Redding, CA
geoff fricker	95928	11922 Castle Rock Court
River Stone	97214	11130 NE Knott Street
Rachel Duryee	96019	3046 Sioux dr
elvon douglas	96064	7005 sterchi lane
ray perkins	97211	po box 11895

Duplicate DEIS Public Comments

Name	Postcode	Address
Christine Barto	96067	PO Box 1451
Linda Miilu	95928	2060 Amanda Way, Chico, CA
Sabine Engelhardt	72108	Neckarhalde 38/1
Catherine Siskron	97403	2446 Onyx Alley
Rhythm Mohab	94002	506 crest view ave #358,Belmont, Ca
Nina Kramerova	96001	F. Hecku 5
Pamela Check	95926-1475	2237-1/2 Ceres Avenue
Elizabeth Kuiper	95926	1126 Bidwell Ave
Will Parrinello	94965	31 East Pier
John Lynch	95501	1131 Hayes St.
Mark Stedman	95993	2846 art drive
Catherine Campagne	94707	835 Peralta Ave.
CA Lonergan	94602	4370 Whittle
Javier Dura	95926	9 Savannah In
Matthew Swisher	95603	1180 auburn ravine rd
Chief Jefferson Greywolf-Kelley	97351	P.O. Box 506 Independence, OR
Sourixay Vilalay	97236	13153 SE Duke St, Portland OR
Harriet Dooley	96726	Post office box 434 , honaunau
Rainer Neumann	94102	627 Taylor 16
Natasa Muntean	97218	Portland
Megan Corpus	04702	Australia
Kevin Coyne	95503	3426 N Street
Anke Zimny	10963	Schöneberger Str.19
hollis blume	60044	430 w. sheridan place
Richard Klein	96046	POB 180
kristin younr	97202	2827 se Colt dr. 455
TinaMarie King	95967	po box 3325
Connor White	94020	P.O. Box 474
Olive Frankiin	95490	27860 Poppy Drive
Lisle Merriman	44122	Van Aken Boulevard
Voelm Jeanette	95608	3524 Dutch Way
David Hammond	95490	4205 Blackhawk Dr.

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Name	Postcode	Address
dedree Drees	21228	800 S.Rolling RD
Joanna Kozanecka	05-200	Krolowej Jadwigi 13
Sherri Mitchell	30268	7250 Tiderace Court
Patty Hill	96025	box 334
Darlene Kirby	95954	POB 1427
Sondra m	96027	2408 Eastside Road. Etna, CA
Colleen Darling	93463	950 Ballard cyn
Michelle Fairchild	96001	5386 Rosswood Lane
michelle beaman	95971	pob 1473
John wieland	95490	3571 williams ranch road, willits, ca
Steve Gilmartin	94702	Berkeley, CA
Nan Siringer	95503	4794 Patricia Dr
Cory Andreatta	97504	830 Lawnsdale Rd
Stan Easley Wintu	97415	99379 North Bank Chetco River RD Brookings OR
Bunny Firebaugh	95223	P.O. Box 3544, Arnold
cecelia gates	96067	1020 Kingston Rd
Molly Waterbury	95973	10 Jillian Ln #1
Elizabeth McLeod	94037	Po box 370972, Montara ca
Jessica Spain	96088	33620 Short Rainbow Ln
Russ Greenlaw	96137	1116 Clifford Drive
Marily Woodhouse	96059	Rock Creek
Lillian Feierabend	96022	PO Box 1540
Joyce Smith	60108	66 Country Club Drive, Bloomington, IL 60108
Eric Stary	95519	2049 Sutter Rd.
Fiona McLeod	94708	980 Grizzly Peak Blvd
Forest Harpham	95521	1855 Margaret Ln
Aeun Toke	97405	Eugene
Anoma Vilalay	97266	5694 se tranquil ct. Milwaukie, or
Dianna Thrasher	96003	3497 Old Lantern Dr., Redding
Tina Ball	95519	1772 A ave
Jan Ivanoff	96080	PO Box 8053
Dawn L	60172	214Catalpa

Name	Postcode	Address
Paul Andrews	95407	17 Milicent w
Kevin and Kathy Casey	96067-2049	317 Shasta Ave
Prudence Ratliff	95503	3225 G Street
Johnnie Jones-Arant	32501	1507 E DeSoto St
Kim McCracken	95917	P.O. Box 907 Biggs, Ca.
Alan Blankenship	96094	16725 Friar Pl. Weed, CA
Herb Everett	97405	2155 Monroe St.
Victoria Howe	96041	po box 584
roxie harrington	54636	po box 401
Harry Blumenthal	95501	2773 Avery Ln
Wesley R Lachman	97405	3534 High St, Eugene
Patrick Harestad	95570	655 Ferncrest , Trinidad,CA
Alex Saneski	94971	Po box 292 Tomales, ca
Angelina Torrieri	96002	1835 Hartnell Ave #141
karina hornbuckle	96002	1835 hartnell ave #141
Nancy Powers	95525	po box 724
Marc Deveraux	95926	964 ellene ave
Mary Patterson	94705	3037 Fulton St.
Laura P	96073	8858 sun valley dr
Jim Freeberg	97520	POB 938
Eric Macy	96003	5884 Sierra Dr
doug Almand	95536	12 Weymouth Bluff Rd.
Ronald Hart	96067	965 Lassen Lane, Mt. Shasta
Lora Newton	96039	Happy Camp, CA
marcia rickert	96065	po 122 montgomery creek
Jessica Bathurst	11206	888 Myrtle Avenue #3B
Jain Elliott	97402	1439 W. 4th
sergio domeyko	94025	325 sharon park drive #609
justin graham	95589	561 muskrat cir.
chris Marrone	96067	PO box 156, Mt. Shasta
Danielle Gaynor	94602	Pleasant Street
Scott Fife	97401	342 W. 8th Ave. Apt. A Eugene, OR.

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Name	Postcode	Address
John Abbe	97403	1680 Walnut St
Ellen Bryant	95503	3545 M St
Sant Khalsa	92405	2815 N. Arrowhead Ave
Emily Sachs	96001	1975 10th Street, Apt. 1
Barbara Mauk	96046	591 Pelletreau Ridge Road, POB 153
Jane Waite	97402	28346 rainbow valley rd
Jen DaParma	95502	PO Box 9042, Eureka CA
Patrick Walsh	95219	7008 Tucker Bay Ct.
C. ames	94114	525 Hill Street
Jay Youngflesh	49684	4356 Carlson Drive
Hildegard Williams	95501	1120 John Hill rd.
Charlotte Massey	95136	72 Park Sharon
Timothy Hart	95062	1415#A Seabright Ave. Santa Cruz CA.
Wayne Steffes	96001	2187 Wisconsin Avenue
Carolyn Hedger	96067	POB 2
mary seppi	95642	153 frontier, jackson, ca
Amanda Piscitelli	95603	109 Lincoln Way
Gemma Hunt	94708	1305 Bay View Pl.
Jackson Crane	94020	110 Canada Vista
Janet Jordan	98506	6702 Garrett Court NE
Shanta Gabriel	96067	PO Box 730
Rachel Whalen	94702	1271 Addison St.
Marta Spangler	07405	963 tiara crt
Madeline Dills	94702	2135 Curtis
Trina Blanchette	96003	1852 Del Mar Avenue
Linda Kehoe	96002	1076 Hawthorne Ave
Rebecca Nageotte	94707	1541 Portland Ave.
Barbara Hayes	95560-2366	PO Box 2366, Po box 2366
Rick Bligh	98271	13021 58th Ave NE
Thamar Wherrit	96067	P O Box 708
Joshua Gill	96002-5305	3945 Meadow Oak
Kevin Walsh	95831	1385 Munger Way

Duplicate DEIS Public Comments

Name	Postcode	Address
Alida Booth	98292	26910 92nd ave nw
Andy Fusso	94965	49 Liberty Dock
Orli Ziv	94707	1880 capistrano ave
Caleen Sisk	96003	14840 Bear Mtn Rd.
vlad popescu	90293	7615 w 85th str
Mitchell Barrett	96994	16231 Indian Hill Dr
Paige Corich-Kleim	97401	1648 Alder Street
Meaghan McCrane	94707	1128 Amador Ave
R Aitken	94966	PO Box 171, Sausalito CA
Anna Marsh	96027	4628 Pine Cone Drive
Karl Koessel	95525	PO Box 257
Allan Wier II	46516	1913 E Jackson Blvd, Elkhart, IN
Terry Hart	96067	Mt. Shasta, CA
Pamela Webb	32725	1440 W. Wellington Dr.
holly lindsay	87110	po box 4659
Kathleen Kruczek	18706	319 Phillips st
Liz Veazey	97402	54 N. Adams St.
Brenden Price	95926	581 E. 5th Ave. Apt. E
Amanda Leal	72701	360 S Sang Ave. #2
Jenni Garverick	95826	2516 Notre dame drive
eric hodges	95965	4759 Larkin Road
Bruce Shoemaker	96025	6006 Butterfly, Dunsmuir, CA
Arlene Pantalone	96003	2173 Hope Ln.
christine riedell	94804	2120 sand dollar drive
Anna Tindell	87574	Tesuque
Miles McLeod	94708	980 Grizzly Peak Blvd
Laurel James	90068	6926 La Presa Dr.
Molly Hastings	95060	849 Almar Ave Ste C # 523
Meighan O'Brien	95519	1862 Bird Avenue
Marcel Ramos	14853	5561 Clara Dickson Hall
Isaac Butler-Brown	94707	1027 Merced. St.
Mary Ann Loconte	92675	27052 Paseo Burladero , Unit B San Jan Capistrano, Ca

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Duplicate DEIS Public Comments Appendix

Name	Postcode	Address
Anna Flom	60614	2510 N. Burling St.
Saldivar Teresa	78520	115 w los ebanos
Will Morris	94708	1083 Keith Avenue
Carol Upton	96069	30528 Smth Logging Rd
Penny Harris	96003	3188 Harlan Dr.
Josh Karon	94703	1340 Josephine st.
Patricia White	96024	P.O. Box 148
Ryan Benz	95502	PO box 3149
Alexia Warren	08502	103 Dominicus court Belle Mead, NJ
s rivka levy	84111	339 e 600 s. #1301
jacob wright	95971	po box 477
MAUREEN MCNEY	44145	26198 WESTWOOD ROAD
Paul Kivel	94610	658 Vernon St.
Joanne Krippaehne	96044	1801 S S Bar Ranch Road
Dona Blakely	95528	573 Golden Gate Dr.
Charlene Fershin	96013	37385 Oak View St
greg d	96067	no mail
William Webster	95966-9233	36 Westwood Pl
michael rohmer	96019	4842 main st
Elizabeth Leija	78212	727Carney Apt.D
Asa Burroughs	94707	1140 sutter St.
Alyssa Pace	94702	2769 Mathews st
Lorrie Emery	95060	9865 Empire Grade
Palomita Reza	98117	Seattle
Katie Zukoski	95928	1884 Humboldt Rd
Connie Bilton	96059	21645 Graham Road
Patricia Wilson Caine	95003	3050 Marlo Ct #9, Aptos, CA
Laurence Fitzsimons	96091	1234 5th
Britta Guerrero	95823	5500 muskingham way
Terrill Maguire	95501	3326 17th st
Lisa Red bear	98506	2148 bethel st NE
Larry Sheehy	95482	124 Ford St.

Name	Postcode	Address
Eva Rodriguez-choi	94702	2742 Mabel st
John Feissel	95928	1425 Locust St., Chico, CA
Ava Miller-Lewis	06459	45 Wyllys Avenue, Wesbox 92017
Pamela Hall	95945	14981 Greenhorn Road
tim Howard	95521	2162 heather ln, apt. 1
Jenefer Israel	95642	19000 Clinton Rd.
Samone Derks	98115	7756 4th ave ne
Sue Morrow	93422	6265 Portola Rd. Atascadero, CA
Lawrence Ray	95461	19035 Deehill
Michael Routery	94121	587 34th Ave. San Francisco
cooper walton	94704	2612 Piedmont Ave
Carly F	11205	Brooklyn
Gail Pyburn	96781	po box 286, Papaikou, Hawaii
Dr Paul Small	95963	4677 County Rd O
Leslene della-Madre	95472	1205 Enos ave
John Nesheim	93923	2486 17th Avenue
elizabeth wilson	96003	7480 dry creek rd
Anne Harrigan	95983	5514 Fir Fork
Jeannine Scow	96003	123 Any St. Redding, CA
Reba N	87010	POB 62
yvette Carrie	95618	3604 Arroyo Avenue
krystal rose	54603	927 vine st
Laurel Robinson	97603	3614 Crest
Creswell Cole III	95118	1577 Calle de Stuarda
Connie Israel	95203	1317 Yale Avenue
Ricardo Uruchurtu	84118	5260s 5200w Kearnes, UT.
Suzanne Stoddard	94530	608 Lexington Ave., El Cerrito, CA, 94530
Tim Sinnhuber	96064	121 n 9 th st
Lynda G Gutierrez	93455	624 Hummel Village cT. #D
Margaret Ann McGuire	96001	1339 Almond Ave, Redding
Terry Baker	96003	1927 Wineberry Path, Redding, CA

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Name	Postcode	Address
Ashley Alexander	94530	754 Pomona Ave
Christine Doyka	95560	PO BOX 2502 Redway CA
Diane Ryerson	95521	1659 I Street, Arcata, CA
Kathryn Lorenzini	33334	1286 NE 30th St
Nile Nugnez	10126	53 Woodsford
steve plumber	44221	1039 broad blvd, cuyahoga falls OH
jeremy goddard	95662	7056 almond avenue orangevale, ca
Jeff Shamansky	96057	po box 193 McCloud CA
jane wilson	95521	1972 zehndner ave. arcata,ca.
arthur taber	96007	17940 shawn dr anderson ca
Bobby and Michele Jones Family	96093	PO Box 598,Weaverville,CA,
molly mancasola	96001	10184 grand forks ct
mandy ashe	55941	522 3rd st
George Stevens	95573	Willow Creek
Kit Clements	95503	3127 P St.
nicole cruz flynn	89501	590 lake st #225
Melanie Scouten	96001-9662	11085 Iron Mountain Rd.
R. Max Creasy	95568	2117 Ti Bar Road
William Briggs	95536	.
Andrew Salenti	10126	11 St Martin's Close
Jessica Woodard	94707	2418 24th St
andrew goring	94705	40 hazel rd
Susan silverman	85717	po box 40743
Lynn Lloyd	96067	117 N. A Street, Mount Shasta, CA
B Lesley	95519	750 Gross
Annie Becker-Arnold	47274	10650 N. State Rd. 11
Olivia Seulement-Provol	97402	170 N Jefferson
Peter Josefsson	96003	11455 Ridgewood Rd.
David Bruce McCalib	96064	4500 Black Mt. Rd.
Sandra Mann	97477	306 F St., #5, Springfield, OR
Sally Toy	91744	1136 Clintwood Ave

Name	Postcode	Address
Athena Arcayan	93003	99 Redwood Cir Ventura Ca
Wolfgang Rougle	96022	16395 Ridgewood TRd
Daniel Wesley	96019	1225 mussel shoals ave
Wendy Talaro	91331	10849 Ralston Avenue
melinda parks	96009	pob 204
Eula Moffett	95973	3378 Nord Ave, Chico, ca
Liz Laury	93602	pobox 241 Auberry, CA
Susan Durosko	95758	5817 Laguna Trail Way
Cindy Winter	80816	PO Box 2
Barbara Marden	96025	6011 Sacramento av
Diane Wormood	95969	6811 Leone Wy
Eli Andersen	97227	3830 N. Borthwick
ken Iengel	96073	9
Mark Mohtashem	94960	6 Angela Ave, San Anselmo
Brian Letts	95521	1041 Larry Street
Jane Waters	98569	PO Box 1554 Ocean Shores WA
Curtis Presley	98624-9088	PO Box 402
Shanthi Gordin	97720	636 S Egan Ave
Coleen Scholfield	96001	1616 Willis St #1, Redding, CA
Joe Gonzales	93455	2410 Village Green Ln.
Jack Johnson	53511	1651 Sun Valley Drive
Ruth Koenig	97405	1204 W. 28th Ave
Anna Herrera	95037	16740 Dry Creek Ct
Janet Warren	92111	3134 Old Bridgeport Way
Craig D. Glasser	95954	BOX 191
sherry kamer	31625	2578 cooper rd
ROGER CROPLEY	04457-5713	457 South Chester Road,Apt.1A
Gary Donovan	95490	Perch
leslie armknecht	95965	4189 backache road
Sioux Garnier-Stanley	47340	8416 W 300 N, Farmland, Indiana
Bonnie Shand	95524	560 Hidden Valley Rd., Bayside, CA
Glen Goodsell	92677	95 fairlane

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Name	Postcode	Address
Anne Wallach Thomas	96073	10340 Lone Goose Lane
Beverley Bonniksen	97477	3550 Valentine Ct
Denise Ross	95819	5721 Monalee Avenue
Janet Eidsness	95524	2488 Sonnenfelt Road
Sarah Jensen	95928	10 Tilden Lane
Diana Simmons	96094	16725 Friar Place, Weed, CA
Laurie Lingemann	96048	POB 419
Harriet Edith Roberts	97403	2510 Woodland Dr.
Denise Downey	95524	2266 Jacoby Creek Rd
Sam Steuart	94705	35 Oakvale Ave Berkeley CA
D Harton	96025	6901 Dunsmuir Avenue
Kevin Lynn	94707	1622 Hopkins St
NAOMI Stout	19057	27 Valley Rd
John McCamant	94127	579 Mangels Ave. SF, CA
ryan holt	19057	27 Valley Rd
JC CALLAHAN	08057	100 E CAMDEN AVE
Nancy Keiber	95521	1523 Chester Ave Arcata, CA 95521
Grace Winters	74647	113 East third
Destiny Hornbuckle	96002	1835 Hartnell Ave 141
Stephen Meno	06905	19 Rapids Rd
Adam Marlow	97202	1124 SE Umatilla St., Portland OR
Everett Mitchell	65625	708 Wildwood Dr
Janine Keluche- Jordan	97487	25200 Irenic Ave
Daniela Rihova	95112	370 N 4 st #6
Robert Morrow	93422	6265 Portola Rd Atas.
Amy Raven	97402	1885 W. 15th Ave., Eugene OR
Phyllis Hockley	97402	220 N Adams #2
Barbara King	95616	1549 Santa Rosa St, Davis, CA
thomas rumsey	95670	2909 hunt drive rancho cordova
Kristian Boose	98103	1802 N 54th ST
Pamela Fischer	94518	924 San Miguel Rd

Name	Postcode	Address
Jason Balkenbush	95968	2620 Williams Ave
Molly clinehens	96067	714 Lassen Lane
Patricia Cole-Burrell	96003	833 July Way #1
Stan Taylor	97405	1905 Taylor St., Eugene, OR
Wendy Coburn	97401	265 W. 8th. St., Apt. 502
Nancy Pernell	96087	PO Box 189
Allen Baker	95521	1887 Sorrell Circle, Arcata, CA
Jennifer Rice	95501	2404 17th Street
Julie White	05536	7005 Upper Bear River Rd
Lethea Erz	97405	195 E. 38th, Eugene, OR
Faith Straily	95971	PO Box 3012
Susan Quash-Mah	97405	Eugene
Linda Mays	95060	208 Blackburn St.
Rouanna Garden	97402	3690 wood ave
Patricia Davis	95954	13645 West Park Drive
Linda Serrato	95973	3052 Snowbird dr
Sandr Paris	95519	70 E. Ridge Lane
Mariana Quinn-Makwaia	10003	58 E 1st st apt 5D
Snake Harrington	97477	496 1/2 West D Street
Evelyn Schumacher	96021	Corning
William Geionek	96002	4540 Bechelli Lane Redding, Ca
Kathleen Warren	94513	2178 St Michaels Ct
randy weaver	95503	3225 G Street, Eureka, CA
Kayla Godowa	97402	30063 federal lane Eugene, Oregon
Joy Hunt	96067	PO Box 1387
Kay Simenc	95928	12608 Centerville Road, Chico CA
Roscoe Caron	97405	840 W. 22nd Ave.
Marci Gordon	97403	2609 Fairmount Blvd. Eugene, OR
Jeffrey Long	94903	119 Schmidt Lane, San Rafael, Ca
jessica eden	95524	po box 533
Geoff Gordon	97403	2609 Fairmount Blvd. Eugene, OR
John Mastalski	96003	1095 Hilltop Dr # 339

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Name	Postcode	Address
Linda Zimmerman	97405-1128	1919 Bailey Hill Rd Apt 123, Eugene
Morgan Morningstar	96094	9116 N Old Stage Rd
Ernesto Elias	85364	326 S 45 Avenue
Doug Perske	95973	156 Bull Creek Lane
bruce jones	95969	paradise ca
Dana Edwards	92058	1426 Olive Street
cherry scanlon	96086	po box 511
Charmaine Mcdarment	93257	37 chimney rd
Catherine Burns	63105	7508 Oxford
Dania Colegrove	95546	531
Jack Potter jr	96002	8115 Adra rd redding ca.
Patricia Lawrence	96073	PO Box 800
Howard Isaacson	94110	2763 23rd st San Francisco,CA
Barbara Miller	65466	Hcr. 2 Box 174 Eminence, MO
Zoe S	95630	1189 Boxelder Circle
monique authelet	86336	po box 1208 sedona az
Lisa Holcomb	97478	1033 57th Street
Dee Ko	02115	Fenwood rd
Jared Laiti	95835-2034	81 Cognac Circle
Ms. Houghton	98144	1348 14th Ave S
Lara Beaston	97477	1590 Hayden Bridge Rd
Teresa Wicks	97533	PO Box 278 Murphy, OR
Marie Morohoshi	94110	549 Andover Street
Miranda Hart	95562	80 Humboldt Ave.
Laura Duttweller	95519	1813 ashdown ave
Andrew Borst	49348	683 132nd ave
Miakah Nix	97402	1709 Grant St
Karen Starr	05667	PO BO 294
Barbara Ulbrich	96067	110 north a st.
yerda Berger	92240	9676 Del RAy Ln
Cody Pata	96825	Honolulu
Matthew Gorsky	05143	1929 Dean Brook Rd

Duplicate DEIS Public Comments

Name	Postcode	Address
Jane Stock	95501	1391 Nigel Lane
India Bowers	94110	3425 23rd st.
Patricia Halleran	97520	309 Hillcrest Street
evam reed	95521	389 4th st apt C
Warren Carlson	96073	Box 1279, Palo Cedro CA
Cindy Lawhon	96067	1604 Everitt Memorial Hwy
Beverly Ortiz	94597	1778 Sunnyvale Avenue, Walnut Creek, CA
Mary McChrist	96067	P.O.B.1178
Theresa Scroggin	97520	96 Wightman
Joe Dukepoo	95428	PO BOX 845
Dana sosa	32244	8369 homeport ct
Cynthia Arnold	75043	4501 Chaha Rd., #104, Garland, TX
Lisa Geddes	65803	2222 N. Delaware Ave
John Etter	97205	2211 SW Park Place Portland
Marsha Brown	95969	1749 Eden Roc Dr
Kathleen Young	60440	15S Fernwood Drive
Buffy McQuillen	96531	115 harborview dr
LMarie Avila	66044	1440 Prairie Avem
rianna humble	96003	655 Hilltop Drive 103
Lyla Johnston	87571	337 Linda vista lane, Taos, NM
Catherine Miller	72687	1232 MC 8083
Lori Napoli	76051	500 N Dove Apt 515
Pamela Cubbler	95604	P.O.Box 4884 Auburn, Ca.
Manuel Vargas	95018	1189 Lompico Rd
Judy Cassidy	96019	17606 Foursquare court
Melissa Leal	95821	2792 Pope Avenue
Iemuel charley	97478	91070 sunderman rd
FRED R. COPE II	19104	3209
Lauren Smith	98117	6708 Mary Avenue NW
Jim Gibson	76088	2401 Zion Hill Rd, Weatherford, TX
Nicolas Buxbaum	94707	950 San Benito Rd
Bethany Woolman	94112	79 Mansfield St

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Duplicate DEIS Public Comments Appendix

Name	Postcode	Address
sean russo	94118	667 20th st
Randy King	87571	po box 753
Beth Sand	55303	6150 Rvlyn
Stephanie Ladwig-Cooper	95927-3358	PO Box 3358
June Ko-Dial	94602	4226 Midvale Avenue
Jacob Lahut	12309	WesBox91923
Johnnie Morris	73505	2309 nw 38th apt 30
Deborah Babcock-Abbott	95670	10685 Coloma Rd #85
Tina Maravich	12345	Hamilton ON
Joanna Davis	94501	523 1/2 Santa Clara Ave.
Jackie Woodall	94565	1533 Woodland Dr. Pitts. Calif.
Melissa Sherrill	35475	15240 Four Winds Loop
Stacey Ducharme	96067	514 Sarah Bell St.
lisa keller	94553	2330 west shell st
Gloria Toby Jones	98271	Tulalip Wa.
Briana Plank	95521	4786 Valley East Blvd Apt D
Jacqueline Shea Murphy	94611	4407 Moraga Ave Oakland CA
Crystal Baker	93423	P.O. Box 723 Atascadero, CA.
Dessa Drake	93446	835 19th St., Paso Robles, CA
Jessie TeWinkel	57104	2004 EAST 30TH ST NORTH, SIOUX FALLS SD
Elizabeth Stahmer	94546	20638 Patio Drive
vanessa houk	97520	137 5th Street
Frieda McAlear	94608	822 53rd st
Rebecca Brent	96003	2413 Carneliang Way
Pati Martinson	87557	P.O. Box 937
Nicole Pierce	76134	1317 Whittenburg Dr
angelika heikaus	87529	po box 510 el prado, nm
Seren Bradshaw	96137	PO Box 1161
Peter Sbraccia	89119	6915 Wineberry Drive
Patrick Weiss	96013	20486 Plumas
jack Jones	37643	911 charlie st. elizabethton tn.

Duplicate DEIS Public Comments

Name	Postcode	Address
bobbi pilkington	96089	po box 5621 shasta lake ca
Linda PANKONIN	96088	30592 sleepy hollow dr.
john ketelhut	95825	731 woodside ln.
Emily Alma	95928	2300 Estes Rd
Catherine Windsor	97501	345 Ogara St
Beckey Jones	30534	337 Wildwood Ct Dawsonville, GA
Andrej Sredanovic	96025	4509 Needham Ave
Elizabeth Cohen	97438	39701 Little Fall Creek Rd
Wendy Lange	55437	9901 Harrison Rd.
Melinda Thomas	97487	Bolton hill rd
Tyler Kerce	92626	2864 Inroz Dr.
alia stenback	94938	99 E CINTURA
Amy Metzger	97437	23911 Warthen Rd
Constance Newman	97402	894 W. 4th, Eugene, OR
John Foster	96064	14015 Ager Beswick rd.
Melanie Guther	94704	10 Mosswood Rd
Rebecca Hilliard	94132	306 Font Blvd
Elaine Phillips	97402	1075 W. 18th Avenue
Nichelle Garcia	94403	1309 Overland Drive
Don Hankins	95942	PO box 627
Yvonne Griffin	97402	1473 Mckinley st
julia murphy	95927	po box 3014
Joseph Spaulding	94117	926 Oak St.
Gregg Castro	95111	5225 Roeder Rd San Jose, CA
Tim Herman	17033	312 Clark Road
Elizabeth Hankins	95942	PO Box 627
Ilis Chavez	93615	13665 Ave. 392
Gina Fink	94509	3319 Serpentine Dr
Jadwiga Reinke	96001-1114	846 Yuba St.
Domingo Garcia	94403	1309 Overland Drive
Miguette Sansegundo	95928	1431 Mulberry st, Chico, CA
Sherrie Porter	78704	3204 Manchaca Rd #701

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Name	Postcode	Address
Robert Coultts	91377	1271 Briargate Ct
Brandy Kinch	97402	28 Cedar St Eugene OR
Kathryn Selph	95821	3220 Watt Ave. Apt 26
Jennifer Henderson	95521	172 11th Street
Lana G. Carley	96049	P.O. Box 494902
alex goodwin	94115	2340 geary blvd
Mary Almansa	95531	po 1763
Mareike Anders	96067	1441 deetz
Elizabeth Ordway	94132	306 font blvd
Ginny Barker	94611	6025 shirley dr oakland ca
Patricia Rose	95560	PO Box1444
Norma Landy	97477	503 Walnut Pl., Springfield, OR
naomi zuckerman	95589	PO box 434
Mycah Williams	92024	125 Diana Street
Michael Clemens	95969	5931 Larissa Ln.
Barbara Whitney	98133	14701 Dayton Ave N 3114
A Patricia Wright	92626	1111 South Coast Drive G104, Costa Mesa, CA
Shelby Bryan	95926	1087 East First Avenue
Leau Gurevitz	97401	1648 alder st
Larry Morningstar	97520	c/o PO Box 3465
Delaney Quick	92119	6460 Belle Glade Ave
Donna Davis	95124	1804 Lencar Way San Jose
mark farneth	95965	3242 hwy 32 chico ca.
ROBIN CHISHOLM	71292	803 kyle street
Renee Nez	96130	Susanville, CA
Steve MacNeil	95660	6720 Thomas Drive
Steve Hernandez	91333	P.O. Box 330665
lore grenz	96067	634 michele dr
Christi Cox	95969	6124 Greenwood Dr.
Delores Manzanares Wyatt	92345	14671 Farmington Street
carolina fleur	02535	8 chester's hill road
isabel trujillo	87510	POB 187

Name	Postcode	Address
katie dubose	98501	407 percival
Deaclan Lenartz	97217	1834 N Russet St.
Pamela Fitzpatrick	97405	2490 Adams Street
Paul Dix	59047	208 South K Street, Livingston, MT
Sandra Shevel	44273	160 W. Greenwich Rd.
melissa hernandez	91911	311 east palomar street
Monique Heyndrickx	96793-7404	PO Box 2404
Victor Kalasa	90804	2817 e 10th st
Frances Darcy	12345	19 Oakfield Park
keiloni kalasa	96799	p.o. box 1626 pago pago, American Samoa
Con Darcy	12345	19 Oakfield Park
Sharon Battles	86515	P.O. Box 460
Larry Emerson	87420	PO Box 3541, Shiprock, NM
Rose Weir	30096	1613 Paces Commons Drive
Debbie Johnson	65205	P.O. Box 102
Gina Pilgreen	97019	32630 E Historic Columbia River Gorge Hwy
Mae Goulet	01504	40 union st. Blackstone Ma
Gary Conley	60137	825 Duane St. Glen Ellyn, Illinois
Ronja Fischer	04838	Ahornweg 12
Debra Krause	95428	PO Box 825
Jennifer Taylor	96013	1717117 burney
Eric White	96720	po Box 6484, Hilo, HI
Lisa Beard	94022	274 solana drive
Sydney Sloan	96067	POB 202
Lynn Rugaard	60187	111 W. Park Circle Dr. #101
Sandy Patterson	96094	19331 Carrick Av.
Sue Buckley	95519	141 Kingston Rd
Fanuailiti Alofipo	84057	64 E 1200 N
marina vukovic	10058	shivnagar 298
karen harris	80480	407 5th
Laura Askim	95926	2030 Palm Ave
Daraxa Mattice	94026	PO Box 4121

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Erica Elliott	97402	945 W 17th Ave
elizabeth seabolt	43204	111N. Wheatland Ave.Columbus OH.
Sage Lapena	95449	pobox 423 Hopland, CA
itoco Garcia	94608	5501 Gaskill st. Oakland CA
Gerard Eisenberg	95460	Bx 344
Robert Granger	97405	3275 Glen Mar Ave, Eugene, OR
Sally Bianco	95926	2050 Laburnum Ave
daniel shedd	14850	112 terraceview dr
Erika Lincango	97405	3370 Potter st
Nancy Harmon	96067	P.O. Box 745
Carole Crews	87529	HC 74 Box 24508
Erik Johnson	49009	5823 West Jefferson Commons, Apartment #101
Christy Sherman	97408	2515 Benson Ln
Jeannine Grizzard	97520	698 Roca st
Devon Pena	98155	1840 NE 177th St Shoreline
Jane Farrell	97405	1855 W 28th Ave
Casy Cann	96087	P.O. Box 429 Shasta CA
Mike Duncan	95816	duncanm1971@yahoo.com
karl Greenblatt	92869-4234	5215 E Chapman Ave #41
Julia Holloway	50132	P.le Doantello, 38, Florence
Jason Jackson	97526	1224 nw sunset dr
Kimberlee Tellez	95501	210 West Buhne
Jackie Sheggeby	95502	PO Box 874
laura winner	95966	1275 cox lane
Diana Tuggle	96002	1803 Vega St
Elizabeth Sabel	94618	5850 Birch Court #2
Kristine Wyndham	94602	1379 El Centro Ave
Jim Brobeck	95926	1605 Manzanita
martha santiago	95608	5325 el camino avenue
Anne Ryan	18847	58 Maiden lane
David Arnold	96003	2013 Hedgerow Ave

Name	Postcode	Address
Kirk Davis	96001	2442 California Street
Joa Janakoayas	96067	601 Cedar St
Stephanie Turner	97206	512 Mill Street
Kevin Cheli-Colando	95521	4514 Valley West
Grace Sesma	80466	Nederland, CO
MG Hanley	96067	Brush Street
Claire Knox	95519	1915 Cliff Ave, McKinleyville CA.
Andrew Royer	96019	1911 Locust Ave
Linda Allen	96003	11441 Rugby Hill
vincenza scarpaci	97401	1090 Corydon St.
Michael Pottinger	95521	320 10th st.
Susan Cashman	95524	Bayside, CA
Anna Ward	97526	1975 Saratoga Way
Susie Miller	75106	p o box 2312
Marianne Bithell	95521	1019 Alder Grove Road
Mollie Kjenaas	95746	4120 Douglas Blvd
Tarra Neff	97501	7000 Griffin Creek Rd
Kendra Howard	97405	1959 Jefferson, Eugene, OR
Paulette Connor	44134	5620 w24th str. Parma Ohio
Daphne Martin	95410	Albion, Ca
Viola Cafferata	96031	HC 4 610 Godfrey Ranch
Joshua Stark	95691	1918 Carolina Ave., West Sacramento, CA
Teri Mihalevich	96067	805 Caroline Ave
Sirina Sucklal	20723	8511 Autumn Grain Gate
Jacob Pounds	95501	898 10Th St
Christina Okesson	97402	4487 Knoop Ave, Eugene, OR
Victoria Webb	95519	McKinleyville, CA
Johnna Morrow	55412	3427 North Colfax Ave.
T Murfin	95501	2524 harrison avenue, eureka
Jewel Murphy	97404	933 Irvington
Christine Jensen	96130	PO Box 1667
ART BURKE	96022	16490 BLUEOAK ROAD

Shasta Lake Water Resources Investigation
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Name	Postcode	Address
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Doug Barrett	97439	P.O. Box 114 Florence OR
robert furukawa	94952	4 raymond heights
Rachel Caspary	95926	1421 1/2 Hobart St.
Gail Babich	95589	200 Cougar Rd
Tamar Danufsky	95521	980 Union St.
Beth Livezey	96088	Shingletown, Ca
steve crossman	95490	1644 Crawford Drive
Michelle Donaldson	94122	1727 43rd Ave SF CA
Nocolette Swan	97404	886 Tyler St
Nicki Dillenbeck	97478	205 S 54th St. Springfield Or.
Mary Simmons	31831	12750 GA Hwy 85
Cindi Alvitre	92626	3094 Mace Avenue costa mesa ca
Alina Randall	95501	232 c st
Hannah Rappaport	87529	P.O. 1647
Gregory Esteve	33898	3655 North Scenic Highway
Darral Seekatz	95969	213 Pacific Dr.
Joseph Orozco	95546	PO Box 1220
Susan Santiago	94949	111 D Cortez Circle
Wendy Deharpport	95570	box 482
Cameron Knutson	99024	600 kelton av
Tiffany Mitchell	94952	431 Stadler Ln.
Alexandra Nagy	91311	9652 Keokuk Avenue
Janelle Anderson	96099	PO Box 991075, Redding, CA
Charles D'Elia	95926	1350 Manzanita Ave. Apt. 7
Rececca Robles	92672	119 Avenida San Fernando
Grace Marvin	95926	1621 N. Cherry St.
M.C. Reardon	97268	PO Box 67078
Ron S.	95233	P.O. Box
two elk standing	59912	po box 1754
Ernesto Moreno	90005	861 Fedora Street, Los Angeles, CA
carole vandal	55408	1 w. lake st
craig speck	97402	329 N. Polk St.

Duplicate DEIS Public Comments

Name	Postcode	Address
John Livingston	96001	2378 Waldon St
Deborah Longaker	94551	1089 Bluebell dr. Livermore Ca. 94551
harold clinehens	96003	1805 Benton Dr., Redding, CA
TONYA HERNANDEZ	95501	1123 I STREET, EUREKA
faioa Schwarzenberg	96027	7800 French Creek Road
Claudio Freixas Jr	95501	2121 Albee St
Ziaa Szymanski	94611	6114 La Salle Av , Oakland
curtis harvat	55404	2418 ogema place
bill jacobson	95949	17069 Vintage Drive
bess nobel	97477	123 washington, springfield, OR
Karen Dallett	89523	9125 Bay Meadows Dr.
William Anderson	96094	3600 Eddy Creek Rd.
Regina Cole	97603	1421 Homedale Rd
Jay Baker-French	95521	986 C St.
rachel mckay	94960	124 Laurel Ave
Jack Neff	90049	PO Box 491272
Robert Wade	95971	PO Box 1240
Misty Johansen	96155	PO Box 550803
John Everhart	98225	120 samish way Bellingham wash
eliot tigerlily	95542	906 redwood dr
Toni Heisey	96130	P.O. Box 490
Michael Robinson	94601	4401 san leandro st oakland ca
Paula Beckley	97402	Adams
Kevn Tijerina	96067	305 old mccloud rd #1
Penelope Coberly	96097	519 Sunrise Ct
Todd Alberts	96093	50 Bartlett Lane #25
Devon Mitchell	92627	974 Trabuco Circle
doug mackenzie	80135	p.o. box 507, sedalia, co
nieves rathbun	95558	627 lighthouse rd
Marilee Haught	95503	6297 Berry Lane
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Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

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Judith Brasseur	95926	1 Kent Court
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Kathleen Einwich	39466	23031 Indian Ridge Rd., Apt A
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Maryse Smith	95954	PO Box 1189
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Elizabeth Blackwell	96025	4018 Katherine street
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Shasta Lake Water Resources Investigation
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Duplicate DEIS Public Comments

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D-LCDA Duplicate of O-LCDA

**Lakehead Community Development Association
P.O. Box 322
Lakehead, CA 96051**

September 27, 2013

Katrina Chow, Project Manager
Bureau of Reclamation
2800 Cottage Way
Sacramento CA 95825

Re:Response to SLWRI Environmental Impact Statement

For many years discussions and studies have taken place regarding the possible raising of Shasta Dam to benefit California fish habitat, agriculture an increased population in California. The current EIS by the Bureau of Reclamation sets forth the needs of each of these interests and the benefits each would enjoy which justifies the raising of Shasta Dam. The study defines negative impacts to wildlife, insects, plants, and communities and provides suggested mitigation measures to lessen the impact from raising the dam.

The study further indicates that many homes and businesses, both on private and US Forest Service leased land will be impacted and that Federal Law provides for financial compensation to the owners of these properties in accordance with Federal law. The majority of the homes and businesses impacted by this project are in the unincorporated community of Lakehead. In numerous meetings with BOR and the US Forest Service we have heard that while private properties on Forest Service land will be provided new Forest Service land to rebuild, no such provision is provided for private property owners, be they homes or businesses to include resorts serving the recreational needs of Shasta Lake.

The community of Lakehead has a stated population of 550 permanent residents, but perhaps an additional 300-400 part time residents who have summer/ vacation homes in or around the Lakehead area and Lake Shasta. Should the dam be raised and these impacted private homes and businesses be lost, the community of Lakehead will suffer a tremendous loss of citizens, and economic benefit to the community, Shasta County and the recreational users of Lake Shasta. Many have stated that the loss of the residences and businesses due to raising the dam will be the end of Lakehead, just as the area lost the towns of Kennett, Coram, Baird, Heroult, Marley and many more small towns that are now at the bottom of Lake Shasta. The major difference here is that the vast majority of these lost properties will not be drowned by higher water, as was the case with the original construction of Shasta Dam. Many of the impacted homes and businesses on private land will just be too close to the new high water mark, thus creating a need for elimination due to

setback requirements by the County, State or Federal agency's. There seems to be no reasonable reason why with the raising of Shasta Dam, the Department of the Interior, Bureau of Reclamation, and US Forest Service should not open up new private property for both residents and business of Lakehead to mitigate the losses as described above.

There must have been provisions for private land along the edge of Lake Shasta when the original dam was built as much of Lakehead as seen today was developed in the 50's 60's and 70's subsequent to the dam being built. Many of the homes that will be lost have been here for 50 years or more and to just say to these property owners and the community that we will have no opportunities to rebuild our homes and businesses to serve a thriving community is irresponsible, and should be a valid mitigation consideration.

With the EIS stated increased population of the State of California and the need for increased recreation opportunities, it does not make sense that we will have fewer resorts and businesses serving the needs of the visitors to Shasta Lake. The US Forest Service has stated publicly that there will be fewer but bigger resorts. This seems short sighted and a desire for the US Forest Service to control all resorts as they will be on Federal Land vs private.

When the Draft Environmental Impact Study was released in 2011 the Lakehead Community Development Association formed a Stakeholders Committee made up of Citizens and Business owners to cooperatively work with the Bureau of Reclamation and USFS in the process of this study. While the BOR has been cooperative holding meetings and providing information on the progress of the study, we have not received any cooperation in regard to many of the very important issues that have been raised at these meetings to include losing a significant portion of the town of Lakehead, it's citizens and businesses that have been vital to the success of our community.

The US Congress, Bureau of Reclamation, and US Forest Service have a tremendous opportunity to mitigate the loss of citizens, businesses, jobs, and economy of both Lakehead and Shasta County with the opening of new private property. The raising of the dam will create a tremendous job of relocating roads, bridges, railroad crossings etc. To add to this project the opening of new private land for citizens to purchase and thus add to the opportunity of Lakehead to recover from the project for its citizens, businesses and economy. This would be both reasonable and responsible mitigation, and bring a positive result for a town that does not have to be devastated.

The EIS states that there will be a need to relocate roads, bridges, railways, utilities, septic systems etc. but does not address the costs, or impact on additional homes and businesses. Not addressing these issues in the EIS leaves the report incomplete and the true impacts immeasurable. In meetings with the BOR, the need to address the major roads, utilities etc. within Lakehead have been loudly stated by the

community, but the response has only been that none of these issues will be addressed prior to the US Congress taking action to move forward with the raising of Shasta Dam. The community believes that the EIS would be in error to not address these issues and their impacts in the study without these issues being addressed.

- We request that the Bureau of Reclamation and USFS address the negative impacts on the community of Lakehead, its citizens and private business owners to include the socio economic impacts. Further we request that the our government make allowances for new private property along the shoreline of Lake Shasta to mitigate the losses described herein. There is no need to lose 170 or more private homes and businesses when an opportunity is present to mitigate these losses by creating new lands, just as the USFS will create for their leased properties.
- We request that the Bureau of Reclamation and USFS provide replacement lands for any and all lakeside resorts, and not just those on Forest Service leased land.
- We request that the EIS address the revision of roads, access to homes, businesses, utilities, septic systems etc to show a truer impact on the community of Lakehead, and thus create opportunities for mitigation in its report to Congress.
- Within the town of Lakehead there are several community water systems that serve neighborhoods. The impacts on these systems as they serve their respective communities needs to be studied, as the loss of numerous homes within a water company will impact their revenue stream for the whole community, or the elimination of wells servicing these communities due to new high water from the raising of Shasta Dam will create environmental impacts which have not been addressed.

We believe that these issues and our comments for mitigation are reasonable and if responsibly considered will provide further support for the BOR to gain acceptance of raising Shasta Dam by the community of Lakehead.

Sincerely;

Joe Myers, President,
Lakehead Community Development Association

D-NRDC1 Duplicate of O-NRDC1



DUNCAN, KATHLEEN <kduncan@usbr.gov>

Fwd: NRDC Comments on SLWRI DEIS

1 message

KATRINA CHOW <kchow@usbr.gov>
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Wed, Oct 23, 2013 at 1:09 PM

Sent from my iPhone

Begin forwarded message:

From: "Obegi, Doug" <dobegi@nrdc.org>
Date: September 30, 2013, 5:08:57 PM PDT
To: "KChow@usbr.gov" <KChow@usbr.gov>
Cc: "Rachel Zwillinger (external)" <rzwillinger@altshulerberzon.com>, "Poole, Kate" <kpoole@nrdc.org>
Subject: NRDC Comments on SLWRI DEIS

Dear Ms. Chow,

Attached are the comments of the Natural Resources Defense Council on the SLWRI DEIS. Because of the file size, I will send you the attachments to our comments in separate emails. I would appreciate if you would confirm receipt of our comments. Please let me know if you have any problems opening the attachments.

Sincerely,

Doug

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

Doug Obegi

Staff Attorney*

Water Program

Natural Resources Defense Council

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415.875.6100 (phone)

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** Admitted to practice in California*

 **Final NRDC comments SLWRI DEIS.pdf**
98K



NATURAL RESOURCES DEFENSE COUNCIL

September 30, 2013

Ms. Katrina Chow
United States Department of the Interior
Bureau of Reclamation, Mid-Pacific Region
2800 Cottage Way, MP-700
Sacramento, CA 95825

SENT VIA EMAIL TO KChow@usbr.gov AND VIA U.S. MAIL

Re: Comments on the Draft Environmental Impact Statement for the Shasta Lake Water Resources Investigation

Dear Ms. Chow:

On behalf of the Natural Resources Defense Council ("NRDC"), which has more than 1.3 million members and activists, 250,000 of whom are Californians, we are writing to provide comments on the inadequacy of the draft Environmental Impact Statement ("DEIS") for the Shasta Lake Water Resources Investigation ("SLWRI").¹ The DEIS evaluates the potential

¹ The DEIS states that "[t]his document has also been prepared in accordance with the California Environmental Quality Act (CEQA)." DEIS at ES-1. However, the document is clearly not CEQA compliant. First, there is no state lead agency, and no state agency is listed as a "cooperating agency" in the DEIS. *Id.*; see Cal. Pub. Res. Code § 21082.1 (EIR "shall be prepared directly by, or under contract to, a public agency"); tit. 14 Cal. Code Regs. § 15379 ("public agency" "does not include agencies of the federal government"). Further, the DEIS fails to identify an environmentally superior alternative, see tit. 14 Cal. Code Regs. § 15126.6(e)(2), and improperly defers mitigation measures to the future. See *id.* § 15126.4(a)(1)(B); *City of Long Beach v. Los Angeles Unified Sch. Dist.*, 176 Cal. App. 4th 889, 915-16 (2009) ("Impermissible deferral of mitigation measures occurs when an EIR puts off analysis or orders a report without either setting standards or demonstrating how the impact can be mitigated in the manner described in the EIR."); see, e.g., DEIS at 25-39 (with respect to impacts to McCloud River, stating "[n]o specific mitigation measures are proposed at this point in the planning process" and referencing "Comprehensive Mitigation Strategy"); *id.* at 2-27 to 2-28 (brief discussion showing Comprehensive Mitigation Strategy devoid of details and standards). The DEIS also fails to even determine whether impacted tribal archaeological sites qualify as historical resources, as required by tit. 14 Cal. Code Regs. § 15064.5(c), and does not address California's stringent requirements for mitigating impacts to historic resources, see *id.* § 15126.4(b). See DEIS at 14-12 to 14-18, 14-23. The DEIS also notes that, "formal CEQA scoping has not been initiated," despite the fact that scoping begins the CEQA process. DEIS at

*NRDC comments on draft SLWRI EIS
September 30, 2013*

environmental effects of five alternative plans to enlarge Shasta Dam and Reservoir, each of which purportedly has the primary purposes of (1) increasing anadromous fish survival in the Sacramento River, primarily upstream from Red Bluff Pumping Plant, and (2) increasing water supply and water supply reliability for agricultural, M&I, and environmental purposes, to help meet current and future water demands, with a focus on enlarging Shasta Dam and Reservoir. DEIS at ES-6.

Unfortunately, the DEIS is fundamentally flawed. First, the DEIS fails to analyze an adequate range of alternatives. None of the alternatives achieve the “coequal” primary purpose of increasing anadromous fish survival, and the Bureau of Reclamation (“Bureau”) unlawfully rejected federal agency recommendations to consider additional alternatives that would help achieve that primary purpose. Second, the project purposes are unlawfully narrow; the purposes fail to reference the Bureau’s legal obligations to achieve anadromous fish doubling under the Central Valley Project Improvement Act (“CVPIA”), and the narrow purpose inappropriately excluded alternatives that would not involve expanding the dam but could benefit anadromous fish, provide water supply flexibility and improvements in water supply. Third, the DEIS fails to adequately analyze the impacts of those alternatives, including impacts on anadromous fish survival, tribal resources, and cumulative impacts. The analysis presents biased results, presents conclusions that are not supported by substantial evidence, and ignores contrary analysis provided by state and federal agencies.

The proposed project is also fatally flawed because the DEIS demonstrates that all of the alternatives would cause significant, unmitigated impacts on tribal resources and would unlawfully impair the legally protected trout fishery and wild and scenic values of the McCloud River (California Public Resources Code section 5093.542). This project, and the millions of dollars spent on related studies and this environmental analysis, represents an unacceptable waste of millions of taxpayer dollars. Accordingly, we recommend that the Bureau withdraw the DEIS and terminate the SLWRI study. Should the Bureau decide to continue consideration of the SLWRI, the Bureau must prepare and recirculate a legally adequate feasibility study and EIS/EIR, consistent with NEPA and CEQA.

On the pages that follow, we discuss these issues in greater detail.

ES-36. Finally, the DEIS is deficient under CEQA for the same reasons the document fails to comply with NEPA, including, *inter alia*, its failure to analyze a reasonable range of alternatives, its unlawfully narrow project objectives, its failure to accurately analyze the effects of alternatives, and its failure to adequately analyze cumulative impacts. An adequate analysis of alternatives and impacts is required, consistent with CEQA.

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I. The DEIS Fails to Consider a Reasonable Range of Alternatives

Pursuant to the National Environmental Policy Act (“NEPA”), an environmental impact statement must consider a reasonable range of alternatives. 42 U.S.C. § 4332; 40 C.F.R. §§ 1502.14, 1508.25(b). “The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.” *Natural Res. Def. Council v. U.S. Forest Serv.*, 421 F.3d 797, 813 (9th Cir. 2005) (quotation marks and citation omitted). The DEIS clearly fails to include a reasonable range of alternatives because although water supply and increased anadromous fish survival are of “coequal priority,” DEIS at ES-6, as discussed in detail *infra*, none of the alternatives are likely to substantially increase anadromous fish survival.

One of the DEIS’s most glaring deficiencies is its failure to consider an alternative that meets both primary objectives, and does not include raising Shasta Dam. In June 2008, the U.S. Fish and Wildlife Service (“FWS”) prepared a report pursuant to the Fish and Wildlife Coordination Act in which it recommended that “Reclamation should include a SLWRI alternative that evaluates the capability of increasing anadromous fish survival and water supply reliability without raising Shasta Dam.” U.S. Fish and Wildlife Service, *Draft Fish and Wildlife Coordination Act Report for the Shasta Lake Water Resources Investigation* vii (June 2008) (hereinafter “FWS Report”).² The report detailed the components of such an alternative, including modifying Shasta Dam’s temperature control device, increasing water use efficiency, and making operational changes to Shasta Dam to increase cold water storage and increase minimum flows. *Id.* at 16-17, 22-23. There are dozens of similar measures that could have been considered in a no-dam-raise alternative, including conjunctive management and water recycling. Analysis of an alternative with components like these likely would have shown that it is possible to improve water supply and anadromous fish survival at a lower cost than spending billions of dollars raising Shasta Dam. The Bureau, however, failed to include a single alternative that did not involve raising the Dam. Had it done so, it would have been able to avoid some of the most substantial impacts that plague each of the proposed action alternatives, including violating Section 5093.542 of the California Public Resources Code by impairing flows on the McCloud River and harming its trout fishery, and permanently impairing culturally significant tribal resources.

In addition to a no-dam-raise alternative, the Bureau failed to consider other alternatives that combined dam expansion with measures that could provide substantial increases in anadromous fish survival. Notably, the FWS explicitly recommended several such measures that should be analyzed as part of one or more alternatives. For example, the FWS Report recommended analyzing an alternative that included increasing minimum flows in the upper Sacramento from

² The FWS Report is available online at: www.usbr.gov/mp/nepa/documentShow.cfm?Doc_ID=14138 and is hereby incorporated by reference.

NRDC comments on draft SLWRI EIS
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the current 3,250 cfs to 4,000 cfs from October 1 through April 30, if end-of-September storage is 2.4 MAF or greater. FWS Report at vi. This could have resulted in expanded spawning habitat, reduced redd dewatering, improved migratory survival, and other benefits to anadromous fish survival. FWS Report at 16-17; *see, e.g.,* National Marine Fisheries Service, *Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and State Water Project* (2009) (hereinafter “NMFS 2009 BO”).³ The DEIS failed to analyze increased minimum flows in any of the action alternatives. *See* DEIS at 2-18 (dismissing need for such analysis). FWS also recommended modifications to Shasta’s storage and release operations to provide pulse flows to improve the quality of aquatic habitat. FWS Report at 22. These actions could improve migratory survival of juvenile anadromous fish, provide geomorphic flows to improve habitat, and provide other benefits. *See, e.g.,* DEIS at 11-269. The DEIS, however, failed to analyze any alternative that included modifications to Shasta’s storage and release operations. While CP4 purports to include dedicated storage for the cold water pool,⁴ it does not increase carryover storage requirements for Shasta reservoir; an alternative that increased carryover storage requirements would have helped to ensure adequate cold-water reserves in the reservoir to improve downstream temperatures and thus anadromous fish survival. *See, e.g.,* NMFS 2009 BO. Yet the DEIS failed to analyze any alternative that increased the carryover storage requirement.⁵

The DEIS also fails to consider a reasonable range of alternatives because all of the alternatives would violate state and federal law by unlawfully degrading the wild and scenic characteristics of the McCloud River and its protected trout fishery. As discussed *infra*, the DEIS appropriately concludes that each action alternative would violate California law (and thus violate federal law) by impairing the McCloud’s trout fishery and free-flowing condition. *See* DEIS at ES-30 (listing as a significant and unavoidable impact the “Effect on McCloud River’s eligibility for listing as a Federal Wild and Scenic River and conflicts with the California Public Resources Code, Section 5093.542 (all action alternatives)”); *see* DEIS at ES-122 to ES-123. Yet the DEIS failed to analyze a single alternative that would avoid these impacts and thus comply with state and

³ The 2009 BO is available online at:

http://swr.nmfs.noaa.gov/ocap/NMFS_Biological_and_Conference_Opinion_on_the_Long-Term_Operations_of_the_CVP_and_SWP.pdf and is hereby incorporated by reference.

⁴ The DEIS also fails to adequately explain whether and how the benefits of increased storage for anadromous fish would be reasonably certain to occur, without increasing existing carryover storage requirements or other regulatory standards.

⁵ The eight management measures common to every alternative do not meaningfully improve conditions for anadromous fish survival; instead, at best they simply maintain status quo conditions in light of modifications to the dam. DEIS at ES-12. In addition, alternatives CP4 and CP5 include minimal spawning gravel augmentation and habitat restoration. DEIS at ES-19 to ES-21. However, these measures appear to only “partially offset” the impacts of the loss of geomorphic flows on downstream habitat. *See* DEIS at 11-270.

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federal law. Because each proposed alternative violates state and federal law and none of the alternatives lawfully may be implemented, the range of alternatives is clearly unreasonable.

In order to analyze a reasonable range of alternatives, the DEIS must include one or more alternatives that do not expand the reservoir but still improve water supply and anadromous fish survival, one or more alternatives that meaningfully improve anadromous fish survival, and one or more alternatives that do not violate state and federal law.

II. The DEIS Utilizes an Unlawfully Narrow Project Purpose and Objectives

The DEIS also fails to comply with NEPA because it defined the project's objectives in unreasonably narrow terms. *See Nat'l Parks & Conservation Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2010) ("An agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action, and the EIS would become a foreordained formality." (quotation marks and citation omitted)). First, the Bureau's water-supply focused objective is narrowly defined to require the raising of Shasta Dam. DEIS at ES-6 (water supply goal includes "a focus on enlarging Shasta Dam and Reservoir"). This definition is inappropriate because it unreasonably forecloses the possibility that both the water supply and anadromous fish survival objectives could feasibly be achieved without increasing the Reservoir's capacity.

Second, the fish-focused primary objective is narrowly drawn to ignore the CVPIA's salmon-doubling requirement. *See* P.L.102-575, § 3406(b)(1) (CVPIA § 3406(b)(1)). Because the Bureau's operation of Shasta Dam must comply with the CVPIA, the statute's command that the Secretary of Interior make "all reasonable efforts" to ensure that "natural production of anadromous fish in Central Valley rivers and streams will be sustainable, on a long-term basis, at levels not less than twice the average levels attained during the period of 1967–1991" must have been explicitly incorporated into the DEIS's fish-focused objective and progress towards that objective evaluated in the DEIS. *Id.*⁶

By narrowly defining project objectives that fail to reference the Bureau's mandatory obligations under the CVPIA and which apparently preclude alternatives that would not expand the Dam but

⁶ The DEIS acknowledges the CVPIA's salmon-doubling goal, but states that it will only be included in a qualitative cumulative impacts assessment. DEIS at 3-23 to 3-24. This is inadequate in light of the Bureau's legal obligations under the CVPIA, the terms and conditions of the Bureau's water rights, and state law. It is also inaccurate, as nowhere in Chapter 11 does the DEIS analyze the cumulative effects of the project in meeting the Bureau's obligations under section 3406(b)(1) of the CVPIA. In addition, as discussed *infra*, modeling tools exist to quantitatively analyze the impacts on anadromous fish abundance and achievement of the salmon-doubling goal under CVPIA.

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would otherwise achieve improved water supply and anadromous fish survival, the DEIS's project purpose and objectives violate NEPA.

III. None of the Alternatives is Likely to Achieve the DEIS's Coequal Primary Objective of Increasing Anadromous Fish Survival

The alternatives analyzed in the DEIS were clearly unreasonable because none meets the primary project objective of increasing anadromous fish survival in the upper Sacramento River. Commenting on the SLWRI Plan Formulation Report, the FWS highlighted the minimal benefits provided to anadromous fish:

Only one alternative (CP4) provides *any* measurable benefit to anadromous fish survival, and even under that alternative, in the vast majority of years the enlarged cold water pool results in either negligible or slightly negative impacts to Chinook salmon survival. In about 90 percent of the years, there would be no benefit to anadromous fish survival. Even in CP4, the benefits of an enlarged cold water pool for each of the four runs of Chinook salmon are limited to a few critical and dry water years representing 6 – 16 percent of the water years, based on the 1922 – 2002 period of simulation.

FWS Report at v (emphasis in original). Similarly, commenting on the SLWRI Feasibility Report, the California Department of Fish and Wildlife ("CDFW") stated that "[o]nly in one alternative (CP4) does enlarging the cold water pool provide benefits to anadromous fish survival. However, it appears that the benefits to anadromous fish are limited to a few critical and dry water years representing 5% to 10% of the 1922-2003 period of simulation." Cal. Dept. of Fish and Wildlife, *SLWRI Comments on the Public Draft of the Feasibility Report, and Selected Attachments, January 2013* (February 8, 2013) at 5 ("CDFW, Attachment 1").

In spite of these agencies criticisms, the alternatives analyzed in the DEIS are similar to those presented in the Plan Formulation and Feasibility Reports, and analysis of the DEIS's alternatives continues to show insubstantial benefits to anadromous fish survival. The DEIS's flawed analysis makes clear that even alternative CP4, which is the most "fish friendly" alternative analyzed in the DEIS, will fail to increase anadromous fish survival in the vast majority of years.⁷

⁷ Our comments focus on alternative CP4 because it purports to provide the greatest benefits to anadromous fish, and the DEIS's flawed methodology demonstrates that other alternatives provide even worse outcomes for anadromous fish survival. See, e.g., DEIS at 11-93 to 11-110 (showing decreased winter run and late fall run production under CP1, and no significant increase in production of other runs); DEIS at 11-98 (showing that alternatives CP1, CP2, and CP5 result in increased mortality of winter run); DEIS at 11-209 to 11-217 (showing that on

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For example, in most years, CP4 will actually result in *decreased* production for winter-run Chinook salmon. In particular, the DEIS's modeling shows that, compared to existing conditions and the no action alternative, winter-run production will decrease in dry, below normal, above normal, and wet years. DEIS at 11-255. Only in critical years, which represent just 16% of modeled years, will there be any increase in production. *Id.* Thus, in 84% of modeled years, the most fish friendly alternative will have a negative impact on winter-run Chinook salmon, and even the DEIS concludes that, "[w]inter-run Chinook salmon would have an *overall insignificant* increase in production" under CP4. DEIS at 11-256 (emphasis added).

The DEIS shows that CP4 will have a similar impact on fall-run Chinook salmon. Compared to existing conditions and the no action alternative, the DEIS concludes that CP4 will cause production to *decrease* in below normal, above normal, and wet years. DEIS at 11-261. Only in critical and dry years, which represent just 30% of modeled years, is fall-run production predicted to improve. *Id.* As a result, in the vast majority of modeled years, the most fish-friendly alternative will result in negative impacts to survival of fall-run Chinook salmon, and the DEIS concludes that overall, CP4 will have an "*insignificant increase in overall production*" of fall-run Chinook salmon. DEIS at 11-262 (emphasis added).

Further, as discussed *infra*, the substantial flaws in the DEIS's modeling results cast doubt on even the modest benefits to anadromous fish survival that the DEIS claims. Because the DEIS's flawed analysis shows that no alternative will provide substantial benefits to anadromous fish, the range of alternatives that the DEIS analyzes is clearly inadequate.

IV. The DEIS Fails to Adequately Assess the Impacts of Proposed Alternatives on the Environment, and Fails to Adequately Analyze Cumulative Impacts

One of NEPA's primary purposes is "to guarantee relevant information is available to the public." *N. Plains Res. Council, Inc. v. Surface Transp. Bd.*, 668 F.3d 1067, 1072 (9th Cir. 2011). The DEIS is deficient because it fails to provide the public with adequate, accurate information that it can use to make an informed comparison of the alternatives that the Bureau did evaluate. *See Natural Res. Def. Council*, 421 F.3d at 811 ("Where the information in the initial EIS was so incomplete or misleading that the decisionmaker and the public could not make an informed comparison of the alternatives, revision of an EIS may be necessary to provide a reasonable, good faith, and objective presentation of the subjects required by NEPA." (quotation marks and citation omitted)).

average, alternative CP3 results in negative production of endangered winter-run Chinook salmon, threatened spring-run Chinook salmon, and late-fall run Chinook salmon). We also note that the flaws with the analysis of impacts pertain to all of the alternatives in the DEIS.

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A. The DEIS Fails to Adequately Analyze Impacts on Anadromous Fish Survival

The DEIS relies exclusively on the SALMOD model to quantitatively analyze potential impacts of alternatives on anadromous fish survival. However, given the extensive flaws and limitations of the SALMOD model (*see infra*), and the fact that other modeling tools are available to the Bureau to quantitatively analyze potential impacts, the DEIS fails to adequately analyze the alternatives' impacts on anadromous fish survival.

For instance, several other life cycle models are available to the Bureau to quantitatively analyze the impacts of alternatives on survival of winter-run Chinook salmon. The OBAN model⁸ is one such model which the Bureau and other federal agencies have utilized as a tool to assess impacts on winter-run Chinook salmon. One of the key advantages of using the OBAN model to analyze impacts is that OBAN can analyze impacts to population abundance over time, whereas SALMOD is limited to analyzing impacts in a single year; in other words, the SALMOD model does not account for the effects of alternatives to previous generations of fish, assuming a constant number of spawning salmon, thus inaccurately describing (and likely understating) the negative impacts of the alternatives to the survival of anadromous fish over multiple generations. The CDFW has likewise identified additional modeling tools that should have been utilized in the DEIS to analyze impacts on anadromous fish survival. *See* CDFW, Attachment 1 at 5-6. The Bureau's failure to analyze impacts with other existing models, including the OBAN model, is inexplicable and violates the agency's obligations to adequately analyze impacts under NEPA.

Even the modest benefits to salmon that the DEIS suggests will occur in some years may be offset by negative impacts that each action alternative will cause, and the DEIS fails to adequately analyze these negative impacts. For instance, the DEIS concludes that CP4 and the other action alternatives will reduce the frequency and magnitude of intermediate to high flows, causing a reduction in ecologically important geomorphic processes in the upper Sacramento River. *See* DEIS at 11-269. "[I]ntermediate to large flows [are] necessary for channel forming and maintenance, meander migration, and creation of seasonally inundated floodplains." *Id.*

⁸ A description of the OBAN model is available online at: <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=69587> and is hereby incorporated by reference. It concludes that reduced water temperatures in spawning reaches, increased flows during outmigration, and reduced water exports are the factors most likely to increase abundance of winter-run Chinook salmon. *Id.* The OBAN model is one of several modeling tools utilized by the Bureau and other federal agencies in the administrative draft of the environmental impact report for the Bay-Delta Conservation Plan. *See* http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/BDCP_Effects_Analysis_-_Appendix_5_G_-_Fish_Life_Cycle_Models_3-27-13.sflb.ashx, hereby incorporated by reference. However, we note that there are also scientific concerns with the adequacy and accuracy of the OBAN model, and nothing herein constitutes a waiver of claims regarding the adequacy and accuracy of that model or of the environmental analysis in BDCP.

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These processes, in turn, are ecologically important for maintaining essential habitat functions and values for anadromous fish. *Id.* Thus, while salmon and other anadromous fish may benefit from slightly decreased water temperatures, each action alternative would reduce the quality of their spawning habitat.⁹ Because the impact of this habitat impairment was not included in the Bureau's quantitative modeling under SALMOD, and because the qualitative conclusions regarding impacts do not account for these flow-related impacts, the analysis is inadequate. At a minimum, the DEIS must adequately explain how these impacts can reduce or eliminate the temperature-related benefits.¹⁰ See *N. Alaska Envtl. Ctr. v. Kempthorne*, 457 F.3d 969, 975 (9th Cir. 2006) (NEPA's "'hard look' should involve a discussion of adverse impacts that does not improperly minimize negative side effects.>").

The DEIS's reliance on CalSim II is also problematic. As the FWS Report pointed out, because CalSim II provides hydrological data in monthly time steps, and flooding and temperature conditions operate on a finer time scale—from hours to weeks—the model is unable to adequately simulate the impacts of each alternative on flooding and temperature conditions. FWS Report at 105. The model's failure to incorporate a finer time scale casts doubt on the accuracy of many of the DEIS's conclusions regarding the hydrologic impacts of the proposed alternatives.

i. The DEIS's reliance on the flawed SALMOD created a misleading overstatement of project benefits to salmon

The DEIS's analysis of impacts to salmon relies on the flawed SALMOD model, even though more accurate models are available. The Bureau's failure to utilize the best available science to evaluate and describe the proposed alternatives' impacts on anadromous fish leaves the public with a distorted perception of the project's impacts and benefits, and makes it difficult to meaningfully understand and comment on the alternatives.

In its 2008 Fish and Wildlife Coordination Act Report for the SLWRI, FWS described many of the problems with the Bureau's reliance on the SALMOD model. FWS explained that SALMOD is not able to simulate the effects of resource competition and predation among different size classes of the four runs of Chinook salmon and steelhead, and noted that such competition and predation "are thought to be an important source of mortality for salmonids in

⁹ While the DEIS contends that CP4 will provide the greatest benefits for anadromous fish because of the increased cold-water pool, it also concludes that CP3, CP4, and CP5 would cause a more substantial impact to important geomorphic processes than CP1 or CP2 because the larger reservoir size would cause a greater reduction in the frequency and magnitude of intermediate and high flow events. See DEIS at 11-224.

¹⁰ The impact from reductions in the frequency and magnitude of intermediate and high flow events would only be partially offset by the habitat restoration efforts that are included in CP4 and CP5. DEIS at 11-270.

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the Sacramento River.” FWS Report at 9. FWS also emphasized that SALMOD is not able to simulate juvenile mortality in the Sacramento River downstream from Red Bluff Diversion Dam. *Id.* FWS concluded that these flaws cause SALMOD to underestimate mortality to all four salmon runs. *Id.* at 83, 88. It also pointed out that the SALMOD “modeling results in the SLWRI overstate the benefits that the SLWRI would provide for spring-run Chinook salmon” because SALMOD overestimates the number of spring-run spawners returning to the mainstem Sacramento River. *Id.* at 178.

The CDFW has raised similarly serious concerns regarding the Bureau’s use of SALMOD to analyze the SLWRI. *See* CDFW, Attachment 1; Cal. Dept. of Fish and Wildlife, Shasta Lake Water Resources Investigation, Comments on the Administrative Draft of the Environmental Impact Statement and Environmental Impact Report, Feasibility Report, and Appendices (November 7, 2008) (“CDFW, Attachment 2”). In these comments, CDFW raises significant concerns regarding “overdependence on the SALMOD model in the ADEIS/DEIR and unsubstantiated assumptions driving the model,” asserts that “SALMOD has not been accepted by the Department for use in the Central Valley,” and identifies other modeling tools and approaches that should be utilized to analyze impacts. *Id.*

Even the Bureau has acknowledged the shortcomings of the SALMOD model: The 2008 Biological Assessment for the CVP/SWP Operations Criteria and Plan (“2008 OCAP BA”), for which the Bureau was the lead federal agency, stated that SALMOD has never been peer reviewed, that it cannot account for the impacts of changes in geomorphology, and that the model may be inappropriate where the number of spawners is small (i.e. fewer than 500).¹¹

In addition to the criticisms raised by the agencies, the SALMOD model fails to account for daily fluctuations in temperature, which can have a profound impact on salmon mortality. SALMOD derived its flow data from CalSim-II, and that data had to be disaggregated from monthly to weekly data. DEIS at 11-59. The DEIS acknowledges that this disaggregation was a potential source of error, *id.*, but does not further acknowledge that using weekly data may mask lethal daily temperature spikes. SALMOD’s failure to account for daily temperatures likely causes it to underestimate salmonid mortality. The National Marine Fisheries Service has

¹¹ *See* Bureau of Reclamation, *Biological Assessment on the Continued Long-Term Operations of the CVP and SWP* (August 2008), App. P at 7-8, available online at: http://www.usbr.gov/mp/cvo/OCAP/sep08_docs/Appendix_P.pdf and hereby incorporated by reference. The DEIS acknowledges that the number of spring-run spawners used in their SALMOD modeling (132) was too low to obtain an accurate result. DEIS at 11-55. Yet the DEIS also claims, based on the modeling results, that “[s]pring-run Chinook salmon would have significantly reduced flow- and water temperature-related mortality under CP4” and that “they would experience a significant increase in production during almost all critical water years.” *Id.* at 11-259. The Bureau’s reliance on the inaccurate modeling results to show benefits to spring-run Chinook salmon is misleading.

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previously expressed concern with the adequacy of the Sacramento River temperature modeling in SALMOD, warning that there is “a great deal of uncertainty in the temperature model results” and that the model fails to accurately account for adaptive management operations. *See* NMFS 2009 BO at 257.

SALMOD also inaccurately assesses project versus non-project mortality, asserting that mortality from such factors as disease and predation are completely unrelated to project operations, *see* DEIS at 11-265 (analyzing CP4 and concluding that for winter-, spring-, fall-, and late fall-run Chinook salmon, non-operations factors will cause 89%, 89%, 66%, and 79% of total mortality, respectively), while substantial scientific evidence shows that project operations cause and contribute to these and other stressors. *See, e.g.*, NMFS 2009 BO. SALMOD’s assessment of the causes of mortality and drivers of production is inconsistent with more recent modeling and scientific studies, including the OBAN model referenced *supra*.

In spite of these numerous criticisms and flaws, and in spite of their knowledge of the existence of other, superior models, the Bureau proceeded to use SALMOD as their only model for assessing impacts to anadromous fish. The sole reliance on the SALMOD model is inadequate to assess the impacts of alternatives on anadromous fish survival, and the lack of adequate analysis of these impacts constitutes a violation of NEPA.

B. The DEIS Fails to Adequately Analyze Impacts on Tribal Resources

The DEIS’s analysis of impacts to tribal resources is also inadequate. While the DEIS acknowledges that each action alternative will result in significant impacts to tribal resources that cannot be mitigated, it fails to provide an accurate picture of the extent of these impacts. For example, with respect to archeological and historic-era structural resources, the DEIS states that “the frequency and distribution of recorded sites within the project study area only give a limited and incomplete picture of the actual number of resources. This is because only a very small percentage of the project area has been systematically inventoried for cultural resources.” DEIS at 14-16. In fact, systematic surveys have only occurred in five percent of the Shasta study area, and in fifteen percent of the upper Sacramento River. *Id.* The DEIS therefore acknowledges that “there are undoubtedly many more cultural resources that have not been identified or formally recorded.” *Id.* In light of the lack of available survey data, the DEIS conducted a sensitivity analysis to estimate the number of resources that would be impacted by each alternative. Considering the sensitive, irreplaceable nature of the tribal resources that would be affected, this cursory analysis is inadequate to fully inform the public about each alternative’s impacts.¹²

¹² As discussed in footnote 1, *supra*, the DEIS’s failure to determine whether tribal archeological sites qualify as historical resources, and its failure to address stringent state-law mitigation requirements for impacts to historical resources makes clear that the DEIS does not comply with CEQA. *See* tit. 14 Cal. Code Regs. §§ 15064.5(c), 15126.4(b).

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C. In Several Additional Ways, the DEIS Failed to Provide Accurate, Adequate Information for the Public to Assess the Proposed Alternatives

There are several other ways in which the DEIS failed to provide the public with sufficient information to assess the impacts of the proposed alternatives. Most generally, the DEIS substantially misleads the public by claiming that certain alternatives benefit anadromous fish when they do not. For example, the DEIS concludes that CP4 will be beneficial for winter-, spring-, and fall-run Chinook salmon. As discussed above, however, these benefits are largely illusory. The inaccurate information that the DEIS provides makes it difficult for members of the public to assess the potential costs and benefits of the proposed projects.

The Bureau also failed to explain how the DEIS integrated the RPA actions from the 2008 and 2009 BOs, and it inaccurately modeled implementation of the RPA actions, rendering the modeling inaccurate and misleading. The DEIS states that “the No-Action/No-Project Alternative is based on CVP and SWP operational conditions described in the 2008 *Biological Assessment on the Continued Long-Term Operations of the CVP and SWP* (2008 OCAP BA), and the BOs issued by USFWS and NMFS in 2008 and 2009, respectively.” DEIS at 2-20. But the DEIS fails to provide details regarding how the 2008 and 2009 BOs’ requirements were included in the DEIS’s baseline conditions.

For example, the DEIS’s modeling appendix fails to clarify how the complicated, sometimes flexible requirements of the RPAs were included in the models. Instead, it merely states, in a conclusory fashion, that particular RPA actions were included in the modeling for existing and future conditions. *See, e.g.*, DEIS Modeling Appx. at 2-5 (Shasta Lake end-of-September storage based on NMFS BO Action 1.2.2); *id.* at 2-6 (Delta flow and salinity based on 2008 BO Action 4); *id.* at 2-6 (combined flow in OMR based on 2008 BO Action 1, 2, 3 and 2009 BO Action IV.2.3). The modeling appendix elaborates that, “[i]n cooperation with NMFS, USFWS, and CDFW, the Reclamation and DWR have developed assumptions for implementation of the USFWS BO (December 15, 2008) and NMFS BO (June 4, 2009) in CalSim-II.” *Id.* at 2-9 n.10. But the DEIS does not describe the agencies’ assumptions. For RPA actions that include adaptive management provisions, such as OMR flow requirements, this lack of clarity makes it impossible to assess whether the requirements were properly integrated into the Bureau’s modeling.

In addition, the modeling shows noncompliance with the RPA actions in certain months and years, and presents other results that appear highly anomalous and inaccurate. For instance, the modeling shows that Delta outflow in the month of September in wet and above normal years would substantially exceed the Fall X2 RPA action requirements (the CVP and SWP would release water from the reservoirs and/or reduce Delta exports in excess of the Fall X2

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requirement), which is inconsistent with operational practices; in contrast, Delta outflow in the month of October in wet and above normal years would not achieve the minimum outflow requirements under the Fall X2 RPA action. *See* DEIS, Fisheries and Aquatic Ecosystems Technical Report, Attachment 1, Assessment of Fisheries Impacts within the Sacramento – San Joaquin Delta, at 2-9 to 2-10, 2-43 to 2-44, 2-47 to 2-48. The 2008 delta smelt biological opinion requires that the Fall X2 requirement be separately achieved in the months of September and October, and as such, the modeling is inconsistent with implementation of the biological opinion. The modeling also appears to fail to account for the “first flush” action of the Delta smelt RPA actions, as Old and Middle River flows are highly negative in wet years during the month of December. *See id.* at 2-61. These modeling flaws cast significant uncertainty on the reliability of all of the modeling results that are used to assess impacts.

Several alternatives in the DEIS also result in impacts on delta hydrology, including reductions in delta outflow. *See, e.g.,* DEIS at 11-126 11-129 (CP1). The DEIS claims that the effect would be less than significant, but it does not provide any analysis to support this conclusion. In contrast, there is substantial scientific information that reductions in Delta outflow in the winter and spring months has significant effects on the abundance and survival of listed species in the Delta, including green sturgeon, longfin smelt, and Chinook salmon. *See, e.g.,* SWRCB 2010, Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem (August 3, 2010).¹³ The DEIS fails to analyze the effects on abundance and survival of these species as a result of reductions in outflow, and the DEIS’s conclusion that these effects are less than significant are not supported by substantial evidence.

The DEIS also fails to provide certain information by water-year type, making it difficult for the public to accurately compare the impacts of various alternatives. For example, the DEIS presents figures showing changes in mean monthly water temperature at modeled locations in the Sacramento River. *See, e.g.,* DEIS Figures 11-34 and 11-35 at 11-267 to 11-268. These averages fail to show the dangerously high temperatures that can occur in dry and critical water years, making it difficult to assess the true impacts of each alternative. Moreover, the monthly averages mask daily temperature changes, which can result in substantial mortality or sublethal effects that reduce survival.

Further, the no-action alternative is misleading because it improperly includes the Vernalis Adaptive Management Plan (“VAMP”) as part of its 2030 baseline. *See* DEIS at 3-16, 3-18 to 3-19. As the DEIS acknowledges, VAMP expired in 2011. *Id.* at 3-19. Yet the DEIS justifies its inclusion of VAMP in the no-action alternative by stating that the Bureau “intends to continue implementing actions similar to the VAMP for the foreseeable future, or until the SWRCB

¹³ This report is available online at: http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/final_rpt080310.pdf and is hereby incorporated by reference.

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adopts new, permanent objectives for San Joaquin River flows that replace the current program.” *Id.* As the State Water Resources Control Board has explained, with the expiration of VAMP the Bureau is obliged to meet the pulse flows required under the Bay-Delta Water Quality Control Plan and Decision 1641. This requires additional flows in certain water year types, and the exclusion of these flows from the modeling creates inaccurate results that may understate impacts.

The DEIS also inaccurately assesses impacts on other special status species. For instance, the DEIS asserts that the project will increase entrainment of Delta smelt, but the methodology used estimates that on average, 41,937 Delta smelt are entrained, whereas the take limit for salvage of Delta smelt under the current biological opinion is in the hundreds of fish at current abundance levels. *See* DEIS, Fisheries and Aquatic Ecosystems Technical Report, Attachment 1, Assessment of Fisheries Impacts within the Sacramento – San Joaquin Delta, at 2-88 (Table 2-170). The entrainment methodology utilized in the DEIS is unreliable, and fails to accurately assess entrainment impacts to Delta smelt. With respect to other special status species, the DEIS concludes that the project will result in significant and unavoidable impacts to numerous botanical and biological resources, including species listed under the California Endangered Species Act. DEIS at ES-66 to ES-67, ES-77 to ES-86; CDFW, Attachment 1. However, the DEIS improperly defers analysis of impacts to California Red-Legged Frog to a future date and fails to analyze the impacts to this species in this document. DEIS at ES-86. And as noted in footnote 1, the DEIS improperly defers mitigation measures for these impacts under CEQA.

Finally, the DEIS utilizes multiple baselines for comparison (e.g., existing condition and no action), which leads to substantial confusion for the reader and undermines NEPA and CEQA’s goal of informed decision-making.

D. The Draft SLWRI Feasibility Report Must be Revised to Provide the Public and Decision Makers With Adequate Information on the Costs and Benefits of the Alternatives

Prior to releasing the DEIS, the Bureau released a draft SLWRI feasibility report, which is incorporated into the DEIS. *See* DEIS at ES-1, ES-35 to ES-36, 1-26. As noted in NRDC’s comments on the draft feasibility report, the Bureau’s initial analysis failed to account for changes to CVP and SWP operations caused by the 2008 and 2009 BOs. *See* NRDC comments on SLWRI feasibility report, attached hereto as Attachment 3. Based on these and other comments, the modeling assumptions used in the DEIS have changed substantially from those analyzed in the feasibility report, and the feasibility report no longer presents an accurate picture of the alternatives’ costs and benefits (FWS’s report indicates that the feasibility report dramatically overstated project benefits to anadromous species). *See also* DEIS at 1-1 to 1-2 (noting that water operations modeling was significantly revised as compared to that utilized in

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the feasibility report). However, the DEIS also makes clear that the DEIS and feasibility report both play an important role in providing the public and decisionmakers with information on the costs, benefits, and impacts of the alternatives, in order to make an informed decision. DEIS at ES-1, ES-35, 1-26. As a result, the DEIS's reliance on the November 2011 draft SLWRI feasibility report to inform the public about the costs and benefits of the proposed alternatives is misleading, and the Bureau must revise the project's feasibility report in order to comply with NEPA and the Bureau's other legal obligations.

E. The DEIS Fails to Adequately Account for Climate Change Impacts and Analyze the Effects of the Alternatives and Climate Change

The DEIS's climate change modeling appendix reviews global climate change forecasts and discusses some of the implications of climate change for California's water resources.¹⁴ It also presents a quantitative analysis of climate change's impacts on various resources, using models to compare climate-change influenced CP4 and CP5 to a climate-change influenced no-action alternative. Thus, the Bureau has acknowledged the important role that climate change will play in California's water future, and showed that it is capable of modeling future scenarios in a way that accounts for climate change impacts. Yet in its analysis of alternatives in the DEIS, the Bureau failed to include climate change impacts in its modeling for any of the alternatives. Instead, it merely briefly discussed climate change in its cumulative impacts analysis for each analyzed resource area. *See* DEIS at 3-10; *see also, e.g., id.* at 11-335 to 11-341. The Bureau's brief, qualitative analysis of climate change in the cumulative impacts sections of the DEIS fails to provide sufficient detail for the public to meaningfully analyze the proposed alternatives, and NRDC recommends that the Bureau include climate change in the modeling of all future scenarios.

Moreover, even when the DEIS did account for climate change impacts in the climate change modeling appendix, it assumed that the CVP and SWP would operate as they do today. *See* DEIS Climate Change Modeling Appx. at 4-4 (indicating system operations were modeled using the SLWRI 2012 Benchmark Version CalSim-II model). This is unacceptable because a failure to adapt project operations to account for climate change impacts likely will result in jeopardy to several threatened and endangered species, *see* NMFS 2009 BO, and the Bureau must acknowledge that simply maintaining the status quo in a warmer future is unacceptable. *See also National Wildlife Federation v. NMFS*, 524 F.3d 917, 929-931 (9th Cir. 2008) (jeopardy analysis under the ESA must consider the effects of the action in light of "present and future human and

¹⁴ The Bureau's analysis should be updated to include a discussion of the climate change impacts described in the California Environmental Protection Agency's recent publication, *Indicators of Climate Change in California*, August 2013. The document is available at: <http://oehha.ca.gov/multimedia/epic/pdf/ClimateChangeIndicatorsReport2013.pdf> and is hereby incorporated by reference.

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natural contexts.” (quotation and citation omitted)). NRDC recommends that the Bureau’s modeling of all future scenarios account for modifications to CVP and SWP operations that will have to occur to avoid jeopardy to threatened and endangered species.

F. The DEIS Fails to Adequately Analyze Cumulative Impacts of the Alternatives

“The cumulative impact analysis must be more than perfunctory; it must provide a ‘useful analysis of the cumulative impacts of past, present, and future projects.’” *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1075 (9th Cir. 2002) (quoting *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 810 (9th Cir. 1999)). Moreover, “[t]o be useful to decision makers and the public, the cumulative impact analysis must include some quantified or detailed information; . . . general statements about possible effects and some risk do not constitute a hard look absent a justification regarding why more definitive information could not be provided.” *N. Plains Res. Council*, 668 F.3d at 1076 (quotation marks and citations omitted). Nonetheless, for several projects that are in advanced planning stages and that will have substantial impacts on resources in the DEIS’s study area, the DEIS fails to provide anything more than vague, general statements regarding cumulative impacts of the projects and the action alternatives.

For example, the DEIS improperly fails to provide any detailed analysis of the cumulative impacts that BDCP will have on resources within the study area, even though BDCP will have a profound effect on many of the same resources that would be impacted by each of the proposed action alternatives. Among other impacts, both BDCP and the proposed alternatives would affect OMR flows, Delta salinity and outflow, and fish entrainment. Moreover, BDCP will have a substantial impact on the SLWRI’s primary objectives—water supply reliability and anadromous fish survival. The DEIS, however, concludes that “[i]t would be speculative to consider [BDCP] at any more than a conceptual level because [its] effects are not defined in sufficient detail to allow meaningful analysis.” DEIS at 3-22 to 3-23. This makes little sense because the administrative draft of the EIR/EIS for BDCP was released *before* the SLWRI DEIS was issued. In fact, the DEIS discussed details regarding BDCP, including the draft plan’s twenty conservation measures. DEIS at 11-32; *see also id.* at 3-27 to 3-28. Because the SLWRI and BDCP will impact the same resources, and because details regarding BDCP were available during the DEIS’s development and are currently available (including quantitative analysis of the effects of BDCP on upstream reservoir storage, Sacramento River inflows, Delta outflows, and Old & Middle River flows), the Bureau should have provided a quantitative analysis of the cumulative effects of BDCP and expansion of Shasta Dam.

The same problems exist for the DEIS’s assessment of cumulative impacts from other surface storage projects being contemplated by the Bureau, including Sites Reservoir and Temperance Flats Reservoir projects. As it did for BDCP, the DEIS concludes that it would be speculative to

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consider these projects at anything more than a conceptual level. DEIS at 3-22 to 3-23. Yet it notes that the notice of intent/notice of preparation for the Sites Reservoir project was issued in November 2001, that a complete plan formulation report was published in September 2008, and that the final EIS/EIR/Feasibility Report is scheduled to be complete in 2013. *Id.* at 3-32. The DEIS also acknowledges that the plan formulation report for the Temperance Flats Reservoir project was released in October 2008. *Id.* at 3-38. Though sufficient information was available, the DEIS fails to analyze the cumulative impact of implementation of these reservoir projects and the SLWRI on water quality (including outflow, X2 location, turbidity, and water temperatures), flows, anadromous fisheries, and other environmental resources. Even assuming that the impacts of a single reservoir project are less than significant, the reduced flows resulting from additional storage in 3 new upstream reservoirs could result in impacts that are cumulatively significant.¹⁵

The DEIS also fails to analyze the effects of the SLWRI on implementation of existing RPA actions to allow winter-run Chinook salmon to spawn upstream of Shasta Dam. *See* NMFS 2009 at 659-671. The alternatives in the DEIS could impede implementation of this action, for instance by inundating additional upstream spawning habitat, reducing survival while salmon migrate through the reservoir, or increasing abundance of non-native and warm-water species that could predate on salmon. Although the DEIS mentions impacts on adfluvial salmonids (salmon that do not migrate to the ocean), the DEIS wholly fails to analyze the potential impacts of the alternatives on implementation of the RPA action to allow winter-run Chinook salmon to spawn upstream of Shasta Dam.

V. The Bureau Should Withdraw the DEIS and Terminate the SLWRI Because All of the Alternatives would Violate State Law and Irreparably Harm Tribal Resources

¹⁵ In the executive summary, the DEIS admits that all action alternatives could result in significant and unavoidable cumulative impacts on Delta outflow and X2. *See* DEIS at ES-30 to ES-31. However, Chapter 11 of the DEIS fails to quantify or even qualitatively describe the magnitude of these cumulative impacts on Sacramento River flows, Delta outflow, or X2, and it does not find that it would result in these significant and unavoidable cumulative impacts. None of the surface storage projects being evaluated by the Bureau are referenced or included in the cumulative impacts analysis. Reductions in Delta outflow in the winter and spring months could cause significant impacts on state and federally listed endangered species that live in or migrate through the Delta, including longfin smelt, green sturgeon, winter run Chinook salmon, and Delta smelt. The DEIS wholly fails to analyze these cumulative impacts on listed species in the Delta. Because the DEIS admits that there are significant impacts, the failure to identify mitigation measures violates CEQA. *See* Footnote 1, *supra*. Feasible mitigation measures could include restrictions on when water can be stored in upstream reservoirs, in order to prevent downstream impacts on river flows, X2, and delta outflow, and thereby on biological resources, including listed fish species.

NRDC comments on draft SLWRI EIS
September 30, 2013

A. All of the Alternatives Unreasonably Harm Tribal Resources

In addition to failing to analyze any alternatives that would substantially benefit anadromous fish, the Bureau failed to analyze a single action alternative that would avoid causing irreparable harm to important tribal resources. As discussed above, the Bureau could have, but chose not to, analyze an alternative that would meet its water supply and anadromous fish survival objectives without raising Shasta Dam. As a result, each action alternative will inundate additional land surrounding Shasta Reservoir, further harming tribal resources that surround the lake.

Several culturally important tribal resources exist in the areas immediately surrounding Shasta Lake. The Pit River Madesi Band has indicated that twenty-two ethnographic villages and associated burial grounds are located within existing reservoir and proposed reservoir areas, DEIS at 14-10, and the Winnemem Wintu identified important localities within the study area where ceremonies are regularly conducted, such as Puberty Rock and the doctoring pools near Nawtawaket Creek. With respect to the Winnemem Wintu's identified locations, the DEIS concluded that "ongoing use of many archeological and religious sites is fundamental to the well-being of their culture, particularly the education of their youth." *Id.* at 14-10 to 14-11. Because the Winnemem Wintu believe that the location of these important sites is preordained, they cannot be relocated. *Id.* at 14-23. The Winnemem Wintu Tribe has prepared detailed comments regarding these impacts to cultural and tribal resources, which we support.

The DEIS concludes that even CP1, which would inundate less land than CP2, CP3, CP4, or CP5, would have a direct, significant adverse impact on these and other tribal resources. *Id.* at 14-22. For example, CP1 would impact Puberty Rock and the doctoring pools near Nawtawaket Creek, and would place approximately 212 prehistoric sites and 355 historic-era archival localities in the inundation zone, and many more sites in the fluctuation zone and quarter-mile buffer zone. *Id.* at 14-22 to 14-23. The other action alternatives would place many more cultural resources in the inundation zone. Accordingly, the DEIS concluded that "it is clear that raising Shasta Dam would result in cumulative effect on historic properties." *Id.* at 14-33. Yet the Bureau chose not to analyze any alternative that would avoid these impacts by meeting the project's objectives without raising Shasta Dam and flooding the lands surrounding the reservoir.

B. All of the Alternatives Violate State and Federal Law by Negatively Impacting the McCloud River's Free-Flowing Conditions and its Trout Fishery

In 1989, the Legislature passed an amendment to the California Wild and Scenic Rivers Act to protect the McCloud River's free-flowing conditions and the fishery below McCloud Dam, adding Section 5093.542 to the California Public Resources Code. The Legislature found and declared "that the McCloud River possesses extraordinary resources in that it supports one of the

NRDC comments on draft SLWRI EIS
September 30, 2013

finest wild trout fisheries in the state.” Cal. Pub. Res. Code § 5093.542. The statute states that “[t]he continued management of river resources in their existing natural condition represent the best way to protect the unique fishery of the McCloud River” and that “maintaining the McCloud River in its free-flowing condition to protect its fishery is the highest and most beneficial use of the waters of the McCloud River.” *Id.*

The DEIS, however, concluded that each action alternative will cause impacts to the McCloud’s free-flowing conditions and to its trout fishery, and would therefore conflict with Section 5093.542. DEIS at 25-30 to 25-31, 25-34, 25-38 to 25-39. In particular, by raising Shasta Dam, each proposal would increase the size of Shasta Reservoir so that it inundates portions of the McCloud River in violation of state law. The DEIS concludes that CP1 would impair the free-flowing conditions in 1,470 feet of the McCloud River, *id.* at 25-26, that CP2 would impair 2,740 feet, *id.* at 25-31, and that CP3, CP4, and CP5 would impair 3,550 feet, *id.* at 25-35. Each alternative would also adversely affect spawning habitat for trout in the lower McCloud River. *See, e.g., id.* at 25-28 to 25-29. The DEIS concludes that no mitigation is currently available for these impacts. *Id.* at 25-39.

Because each action alternative conflicts with Section 5093.542, each alternative also violates the CVPIA. *See* P.L. 102-575, § 3406(b) (CVPIA § 3406(b)) (Secretary of the Interior “shall operate the Central Valley Project to meet all obligations under State and Federal law”). Accordingly, all five of the action alternatives would violate both state and federal law if implemented.

The DEIS also notes that some segments of the McCloud river are eligible for listing under the federal Wild and Scenic Rivers Act. DEIS at 25-6. Because free-flowing conditions are a fundamental requirement for Wild and Scenic River Act eligibility, the impaired reaches of the McCloud River would become ineligible for federal listing. *Id.* at 25-26. Water-level fluctuations would also reduce water quality in impaired sections of the McCloud, rendering them further ineligible for listing under the federal Wild and Scenic Rivers Act. *Id.* at 25-27.

Because none of the alternatives can be implemented consistent with state and federal law, the Bureau should withdraw the DEIS and terminate the SLWRI.

VI. Conclusion

As demonstrated above, the DEIS fails to comply with NEPA and CEQA, and all of the alternatives would violate state law, would significantly harm the tribal resources of the Winnemem Wintu Tribe, and would cause negative impacts (or provide insignificant benefits) to anadromous fish and other biological resources. As a result, the Bureau should withdraw the DEIS and draft feasibility study, and terminate the SLWRI. Should the Bureau decide to

Shasta Lake Water Resources Investigation
Duplicate DEIS Public Comments Appendix

NRDC comments on draft SLWRI EIS
September 30, 2013


continue with the SLWRI, it must prepare and recirculate a revised DEIS/EIR and draft feasibility study that address the substantial flaws identified in these and other agencies' comments.

Thank you for consideration of our views. Please feel free to contact us at your convenience if you have any questions or concerns.

Sincerely,



Rachel Zwillinger
Altshuler Berzon



Doug Obegi
Natural Resources Defense Council

Attachments:

1. Cal. Dept. of Fish and Wildlife, SLWRI Comments on the Public Draft of the Feasibility Report, and Selected Attachments, January 2013 (February 8, 2013)
2. Cal. Dept. of Fish and Wildlife, Shasta Lake Water Resources Investigation, Comments on the Administrative Draft of the Environmental Impact Statement and Environmental Impact Report, Feasibility Report, and Appendices (November 7, 2008)
3. NRDC comments on SLWRI feasibility report

D-PORG Duplicate of O-PORG



DUNCAN, KATHLEEN <kduncan@usbr.gov>

Fwd: Brief Statement in Support of Comments

1 message

KATRINA CHOW <kchow@usbr.gov>
To: KATHLEEN DUNCAN <kduncan@usbr.gov>

Wed, Oct 23, 2013 at 1:14 PM

Sent from my iPhone

Begin forwarded message:

From: Pedro Lucero <plucero@usbr.gov>
Date: September 30, 2013, 11:45:06 PM PDT
To: KATRINA CHOW <kchow@usbr.gov>
Subject: Fwd: Brief Statement in Support of Comments

Pete Lucero
PAO

Sent from my iPhone.

Begin forwarded message:

From: Patrick Porgans <porgansinc@sbcglobal.net>
Date: September 30, 2013, 11:23:56 PM PDT
To: <plucero@usbr.gov>
Cc: <pp@planetarysolutions.org>
Subject: Brief Statement in Support of Comments

To: Pete Lucero, PIO, BOR Sacramento

As stated previously, Porgans & Associates (P/A) made several attempts before 5:00 p.m. to email comments to the PIO, expressing support of the Winnemen Wintu Tribal concerns for their "Sacred Sites", and, for that reason alone, P/A has reservations about the proposal to raise Shasta Dam. P/A respectfully suggest that the Bureau, via the Department of Interior restore, develop a plan to restore "Sacred sites"; not destroy them. I distinctly recall having had the "raise the dam experience" on one or two other occasions in the past 30 years.

P/A intimate knowledge of the adverse impacts attributable to the "operation" of the federal Central Valley Project (CVP), primarily to salmonid and other threatened and/or endangered species, is a real threat that has yet to be mitigated.

P/A would not object to a water project that could pay-for-itself; identify the availability of water to be developed; demonstrate a legitimate need for the proposed project, and fully mitigate the impacts associated with the action.

Lastly, P/A represents Planetary Solutionaries and its policy and position are to stop CVP water contract renewal until the Bureau makes good for the protections that have yet to be forthcoming. Before the Bureau does any additional water development it should complete the following tasks:

- 1). Fully comply with the terms and conditions of their water right permits and licenses, issued by and under the jurisdiction of the California State Water Resources Control Board;
- 2). Adhere to Board Adopted Water Quality Control Plans
- 3). Provide cost-effective and proven solutions to CVP drainage problem and cease water deliveries to lands that are discharging toxic drainage into the Delta.
- 4). Too be compliant with the provision contained in Board D-1631 dealing with drainage and water rights;
- 5). Achieve mandated fish-doubling populations;
- 6). Retire all lands within the San Luis Unit that have known toxic drainage problems, and
- 7). Permanently reduce water deliveries to those lands and

dedicated it for the protection of Delta water users and uses.

Time and my pre-occupation with other matters of state, limit P/As ability to give the "dam" proposal the time and attention it deserves; albeit, for the record, please confirm receipt of P/As comments.

Respectfully,

Patrick Porgans, Solutionist

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SLWRI, BOR MPR <sha-mpr-slwri@usbr.gov>

Comments on Draft EIS for the Shasta Lake Water Resources Investigation

1 message

Chasteen Dianne K. <dchasteen@cfbf.com> Fri, Sep 27, 2013 at 3:20 PM
To: "BOR-MPR-SLWRI@usbr.gov" <BOR-MPR-SLWRI@usbr.gov>
Cc: Scheuring Chris <cscheuring@cfbf.com>

Dear Ms. Chow,

The attached comment letter is being submitted by Christian C. Scheuring, Managing Counsel, on behalf of California Farm Bureau Federation. If you have any questions or comments, Mr. Scheuring can be reached at (919) 561-5600 or cscheuring@cfbf.com.

Sincerely,

Dianne Chasteen

Dianne K. Chasteen

Legal Secretary to Christian C. Scheuring

Legal Services Division

California Farm Bureau Federation

2300 River Plaza Dr.

Sacramento, CA 95833

(916) 561-5653

dchasteen@cfbf.com



13-9-27 Letter to Ms. Chow.pdf

74K



CALIFORNIA FARM BUREAU FEDERATION

OFFICE OF THE GENERAL COUNSEL

2300 RIVER PLAZA DRIVE SACRAMENTO, CA 95833-3293 • PHONE (916) 561-5665 • FAX (916) 561-5691

September 27, 2013

Via U.S. Mail and Electronic Mail
(BOR-MPR-SLWRI@usbr.gov)

Ms. Katrina Chow
Project Manager
Bureau of Reclamation
2800 Cottage Way
Sacramento, CA 95825

Re: Comments on Draft EIS for the Shasta Lake Water Resources Investigation

Dear Ms. Chow:

The California Farm Bureau Federation ("Farm Bureau") appreciates the opportunity to review and comment upon the Draft Environmental Impact Statement ("DEIS") for the Shasta Lake Water Resources Investigation ("SLWRI").

The California Farm Bureau Federation ("Farm Bureau") is a non-governmental, non-profit, voluntary membership California corporation whose purpose is to protect and promote agricultural interests throughout the state of California and to find solutions to the problems of the farm, the farm home and the rural community. Farm Bureau is California's largest farm organization, comprised of 53 county Farm Bureaus currently representing more than 74,000 agricultural, associate and collegiate members in 56 counties. Farm Bureau strives to protect and improve the ability of farmers and ranchers engaged in production agriculture to provide a reliable supply of food and fiber through responsible stewardship of California's resources. A key component of Farm Bureau's advocacy is the protection of affordable and reliable water supplies for California's farmers and ranchers.

Farm Bureau strongly supports all cost-efficient means of increasing California's water supply, including the construction of additional storage facilities. As California's population surpasses 38 million people, demand-side pressures on established agricultural water supplies continue to grow. Compounding these pressures is the overlay of environmental requirements for water, much of which has been implemented on the back of a water supply system that was not originally designed for the same. It seems to us that the only sensible solution set for addressing the growing supply/demand imbalance for water in California simply must include additional storage options for surface water supplies.

NANCY N. McDONOUGH, GENERAL COUNSEL

ASSOCIATE COUNSEL

CARL G. BORDEN • KAREN NORINE MILLS • CHRISTIAN C. SCHEURING • KARI E. FISHER • JACK L. RICE

Ms. Katrina Chow

Re: Comments on Draft EIS for the Shasta Lake Water Resources Investigation

September 27, 2013

Page 2

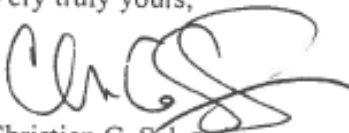
Farm Bureau believes that the expansion of Shasta Dam and Reservoir is an intelligent option for such additional storage. We understand that the DEIS is the ultimate product of the 2000 CALFED Bay-Delta Programmatic Record of Decision, and that primary planning objectives include the improvement of anadromous fish survival in the upper Sacramento River, as well as increasing water supplies and water supply reliability for the Central Valley Project and related water users. Secondary planning objectives include, among others, increased flood protection downstream on the Sacramento River, additional hydropower generation capabilities, and the maintenance or improvement of water quality conditions downstream through the Delta.

Several of the alternative comprehensive plans considered in the DEIS – in particular, those based upon an 18.5-foot dam raise – appear to provide substantial and potentially cost-effective benefits in improved management of cold-water resources for the protection of fish, as well as a restored reliability for CVP and other water supplies to agriculture. We appreciated the DEIS's careful examination of the project purpose and need, the project alternatives, and the no-action alternative. The DEIS also presented a thorough examination of project-related environmental impacts and feasible mitigation measures. We especially appreciated the recognition of the indirect adverse impacts of the no-action alternative on agricultural lands and production. Farm Bureau also noted the incorporation of analysis based upon projected climate change, which we believe is a clarion call for additional surface storage in California.

Farm Bureau urges the Bureau of Reclamation to move forward with additional steps in this process, including circulation of a Final EIS and issuance of a record of decision. In addition, as the preferred alternative is identified for the Shasta Dam and Reservoir enlargement, Farm Bureau looks forward to a detailed cost-accounting for the public benefits of the enlargement, including those accruing to lost reliability of CVP water supplies that has resulted from the application of species-related public laws in the Bay-Delta watershed and their consequences for the movement of water supplies.

Thank you for the opportunity to provide our views and comments on the DEIS. If you have any questions in relation to this letter, please do not hesitate to contact me directly.

Very truly yours,



Christian C. Scheuring
Managing Counsel

CCS/dkc

D-RCOR Duplicate of O-RCOR

7/23/13

DEPARTMENT OF THE INTERIOR Mail - Comment Draft EIR



SLWRI, BOR MPR <sha-mpr-slwri@usbr.gov>

Comment Draft EIR

1 message

Randall Smith <randall_smith@charter.net>

Sun, Jun 30, 2013 at 2:06 PM

To: BOR-MPR-SLWRI@usbr.gov

Dear BOR,

Unable to review the Draft document leaves some disadvantage making comment upon it. The document may contain information sent to Katrina Chow previously, or it may not. In any event, the Final EIR prepared for raising Shasta Dam should include study, evaluation, written report (at least comment) explaining why the number one recommendation of the federal 1940 "Special Scientific Report #10, An Investigation of Fish-Salvage Problems in Relation to Shasta Dam" was never implemented, why such is not being considered now. Stillwater Creek has all of the nearly perfect salmonid spawning potential Stanford Professor Hanson and his team knew over seventy years ago. The necessary infrastructure to convey cold Sacramento River water has been built with federal money and is called the Bella Vista Water District. This sound idea needs to be revisited again and now with minimal funding for pumping coming from those to whom this non consumptive water will be delivered.

Very truly yours,

Randall R. Smith, Chair
Environment Committee
Rotary Club of Redding
955 Sierra Vista Drive
Redding, CA 96001
30 Jun 2013

D-CFCA1 Duplicate of O-CFCA1

September 22nd, 2013

Page 1

Katrina Chow, Project Manager
Bureau of Reclamation, Planning Division
2800 Cottage Way
Sacramento, CA 95825-1893
email: kchow@usbr.gov

Citizens For Clean Air's Public Comments: Shasta Lake Water Resource Investigation, Draft EIS
(Shasta Dam Raising Project)

Our community is overwhelmingly opposed to this project.

Citizens For Clean Air formally requests that the public comment period be extended until
January 15, 2014.

Shasta County, a federally recognized Environmental Justice (EJ) community is being
asked to review an approximately 6000 page document. It is unreasonable to expect
average citizens, to meaningful participate as stakeholders in the review process under the
Bureau's current time line.

The available evidence demonstrates this project is an attempted water grab by the
Westlands and Metropolitan Water Districts. These two water districts are rich and
powerful south state water companies, posing as public agencies.

The raising of Shasta Dam is being advocated as a benefit for North State farmers and
endangered fish species. Yet nowhere in the massive 6000 page Draft EIS has the Bureau
demonstrated any valid scientific evidence to prove such claims.

The raising of Shasta Dam will flood sacred native sites, destroy existing resorts and
marinas, dislocate the town of Lakehead and impact our local economy in a negative
manner.

If the Westlands and Metropolitan Water Districts want to raise the dam for their personal
profits, they (and not the public) should pay for it. By allowing the use of eminent domain
for private gain, the Bureau of Reclamation is complicit in activities that are legally
indefensible.

Many Winnemem Wintu were left homeless when the government forcibly removed them
from their ancestral lands, flooding their villages and sacred sites.

All these years later, the Winnemem Wintu have yet to receive the "like lands" that were
promised in the 1941 Indian Lands Acquisition Act, which authorized the stealing and
subsequent destruction of their homeland.

"Like lands" for a tribe who lived along the McCloud River for over six thousand years,
would be along the McCloud River. This land along the McCloud would still be considered
their ancestral land.

Page 2

The 3,000 acre Bollibokka Fishing Club on the McCloud River was sold to Westlands Water District for nearly \$35 million. Why does the nation's largest water district, located in Southern California (Fresno) want this land?

"We did not want to see the use of this land to be changed to impede the potential of raising the dam." Tom Birmingham, general manager, Westlands. ~Record Searchlight 2/19/2007

It is the very property that would protect the Winnemem Wintu's remaining sacred sites. This is the land that Westlands has recently purchased in their efforts to "de-list" the McCloud River and thereby remove a major impediment to the Shasta Dam raising project.

The Bureau of Reclamation knew the Winnemem were entitled to "like land" for their land the federal government removed them from in the late 1930's. Why didn't the Bureau stop the sale of the Bollibokka fishing club to Westlands?

Your agency's duty to honor your legal commitment to the Winnemem is much older and more important than appeasing special interests in Southern California.

In 1851, the Winnemem (represented by the signature of Numterareman), along with other Wintu bands signed the [congressional] Treaty at Cottonwood Creek which ceded to the United States a vast territory.

In 1914, the U.S. government took steps to purchase land from the Winnemem Wintu.

Congress recognized the Winnemem Wintu in the 1941 Indian Lands Acquisition Act.

For decades the Winnemem received scholarships, health care and permits to gather eagle feathers from the federal government. They had federal tribal recognition.

In the 1980's, the Bureau of Indian Affairs reorganized their Agency and established a Federal Recognition List. The Winnemem Wintu were wrongfully (and secretly) left off of that list. The Bureau of Indian Affairs has not corrected it's own error to this day. The tribe's medical care, scholarships and permits were canceled without notification.

However, the most grievous harm by the Bureau of Indian Affairs is the tribe's loss of sovereign status. Without the Winnemem's rightful status, their fight to save ancestral and sacred sites from permanent destruction is severely compromised.

Until the Winnemem receive 'like lands' for the land Congress acknowledges they took and Congress declared they would compensate the Winnemem for, this project is without moral or legal grounds to proceed. The original deal has never been completed.

Is this the reason for the Bureau of Reclamation's formal "no response" to the theft of the Winnemem Wintu's lands?

The Westlands Water District and the Metropolitan Water District are behind legislation to de-list the McCloud River from current protection under the California Wild & Scenic Rivers Act.

It is the policy of the State of California that certain rivers which possess extraordinary scenic, recreational, fishery, or wildlife values shall be preserved in their free-flowing state, together with their immediate environments, for the benefit and enjoyment of the people of this state. The Legislature declares that such use of these rivers is the highest and most beneficial use and is a reasonable and beneficial use of water within the meaning of Section 2 of Article X of the California Constitution. - The California Wild & Scenic Rivers Act (Public Resources Code Sec. 5093.50 et seq.)

The upper McCloud River offers spectacular waterfalls, great fishing, and shady camping and picnicking spots under towering pine trees. With easy access from Highway 89, the upper McCloud offers a wide variety of outdoor recreation opportunities. The Forest Service acquired 13 miles of this river in 1989 through a land exchange with the Champion timber company. The 2,600 acre river corridor had long been a Forest Service priority for acquisition because of its exceptional recreational and scenic qualities. This segment of the river is considered eligible by the Forest Service for National Wild & Scenic River status due to its free flowing character and outstanding scenic, geological, and fishery values.

According to Friends of the River, the upper McCloud is perhaps best known for its three spectacular waterfalls. They provide an exhilarating sight for hikers and anglers. A short trail extends upstream and downstream from Fowler Campground and provides easy access to the waterfalls. This segment of the river is also popular with anglers, although upstream of the falls, the river provides habitat for the rare McCloud redband trout in two small tributaries closed to fishing.

Included is the following excerpt from a February 2, 2013 Record Searchlight article:

"McCloud River takes central role in the dam-raising proposal" ~By Damon Arthur
Saturday,

The Westlands Water District and Metropolitan Water District, two rich and powerful south state water agencies interested in raising the height of Shasta Dam have the McCloud River in its sights.

The law governing the river's status forbids any state agency from planning for or building anything that would affect the river. The law also specifically says the state can't spend money on proposals to raise Shasta Dam.

A U.S. Bureau of Reclamation draft report released last year said it would be economically feasible to raise the dam, but two issues were unresolved: the McCloud's wild and scenic status and the numerous Winnemem Wintu sacred sites along the river."

The land acquired by Westlands would be sold to the federal government and inundated if officials and lawmakers decided to raise the dam. Will Westlands set the price the federal government, i.e. the people pay for this land?

Where are the Environmental Assessments for flooding 3,000 acres of pristine land?

We urge you to visit this amazing wilderness yourself and after it wins your heart, apply for

National Wild and Scenic Status protection.

Shasta County was recognized by the federal Environmental Appeals Board, *In Re Knauf Fiber Glass*, as an Environmental Justice community, requiring EJ guidelines to be addressed.

We want to point out that in a Bureau of Reclamation press release dated December 7th, 2012, the Bureau claimed "Reclamation initially released the Draft Feasibility Report in February 2012..." Yet, the first time the Winnemem and Citizens for Clean Air realized the report had been 'released for public comment' was when citizens happened upon your press release on December 9th.

This does not qualify as "Early and sustained involvement with the effected community"

After public outcry, the comment period was extended until January 28. We were never notified of this time extension. Citizens discovered the extension while scrolling through press releases on the Bureau's website.

We attended the September 10, 2013 Bureau meeting held in Redding, CA regarding the SLWRI project. Several times the Bureau's staff mentioned (with humorous groans) that the new Environmental Impact Report was over 1,000 pages. Some people have estimates it to be around 6,000 pages. It is not conveniently numbered. On-line, it is divided into many sections which makes it very time consuming and confusing.

In legal circles, if you want to overwhelm and bog down your opponents, you "blizzard" them with thousands of pages of mostly unnecessary information they have to pick through to find what they need.

"However, for perspective, it relies on the reader being familiar with the massive, 10 year-old EISs for the implementation of the Central Valley Project Improvement Act and the CalFed program. Both documents were about two feet thick; organized for those looking for specific subjects, not overall perspective; and probably hard to find by now. It would be most useful for the revised DEIS, to include an account of the major water problems facing California, each of which is potentially budget-busting in a slow economy. Otherwise EISs for enormous, but still small, billion-dollar parts of the overall picture come across as examples of piece mealism..."

~Sept. 13, 2013 Letter to the Editor, Buford Holt, U.S. Bureau of Rec. (retired.)

1,000's of pages of documents (in an unfriendly format) is a highly unreasonable burden to place on an Environmental Justice community. This is a low income community, with lower than average education rates.

Are citizens supposed to read thousands of pages, analyze the information and compose a comprehensive response in three months? In their spare time?!

Page 5

Citizens For Clean Air has had volunteers skim through the plethora of sections. We did not find answers regarding the direct and cumulative impacts to this community. These impacts

are not being seriously considered.

For example, the Bureau did not appear to think it was appropriate to include new inundation levels for the proposed raising of Shasta Dam. If the dam breaks, I guess we are just out of luck?

The Bureau still claims they do not need to consider the 3M quarry's impact as part of the dam raising project. Isn't a potential "take" site identified in the preliminary EIS the proposed 3M Quarry?

Wouldn't the quarrying of Turtle Bay be considered a related impact on the environment if an EIS was done on the original Shasta Dam project?

Eric Cassano finally received the map he has been requesting for our group, Citizens For Clean Air, on September 15, 2013.

This newly released map is critical for our community's public comments.

Our greatest concern, besides the Winnemem's sacred sites, is the devastation that will come to the residents of Shasta Lake and Shasta County from the proposed 3M Moody Flats Quarry.

The importance of the "Shasta Dam Enlargement Sand and Aggregate Sources" report can not be underestimated. It is only weeks before all public comments are due.

In response to repeated Freedom of Information Act (FOIA) requests, the Bureau claims they have had no communication with the proposed 3M Quarry.

However, it is our understanding that in February of 2012, during a conference call, including Katrina Chow, and community activist Eric Cassano, Ms. Chow informed Mr. Cassano that the Bureau had a geologist who was the contact liaison for the proposed 3M quarry.

At the Bureau's previous July SLWRI workshop in Redding, Bureau representatives told Eric Cassano that the Bureau plans to acquire all the aggregate for the project on site. If that is accurate, then the specific site needs to be identified and the impacts considered in the Draft EIS.

If the Bureau intends to purchase the aggregate from the 3M Quarry, then the Bureau needs to state that now to produce a legally defensible document.

If the 3M Quarry is going to supply aggregate for the project, the City of Shasta Lake is the rightful lead agency. All the impacts of the 3M Quarry must be considered in the Bureau's Draft EIS.

If the Bureau is planning to build a Construction Depot within the City of Shasta Lake borders, then the City of Shasta Lake is the correct lead agency, not Shasta County.

Also, the full impact of the Construction Depot must be included in this Draft EIS.

Page 6

"Pacific Constructors, the main company building Shasta Dam, set up its own camp near the base of the Shasta Dam site, called "Contractor's Camp"

or "Shasta Dam Village". The company built an enormous 2,000-man mess hall, hospital, recreational center and other venues at the dam site. Three other makeshift camps nearby, called "Central Valley", "Project City", and "Summit City", soon filled with men from all over the state hoping to get jobs at the Shasta Dam as drillers, crane operators, mechanics, truck drivers, carpenters, welders, among others." ~ wikipedia.org/wiki/Shasta_Dam

The 3M Quarry project includes several acres inside the limits of the City of Shasta Lake.

A road within city limits was identified by the facilitator of the 3M Scoping Meeting as being used by the proposed 3M project to bring in fuel and explosives as part of their planned operation. This is not addressed in the Bureau's Draft EIS.

If the Bureau intends to ever use aggregate or cement from the 3M Quarry, they must include the quarry and all its impacts as part of the Bureau's Draft EIS. The Bureau must also go through the Draft EIS certification process with the correct local lead agency - the City of Shasta Lake.

In the Bureau's latest Draft EIS, the document skims over compensation for the residents/businesses if their property is flooded. Bureau representatives left critical questions unanswered. How much would these residents be given for their properties? Which homes will be flooded? Which business will be flooded? How much will they be paid for their businesses? How are the business owners and employees being compensated for years of lost income?

The Westlands Water District, already the largest agricultural user of Northern California water, has purchased 3,000 acres along the McCloud River to "make it easier to one day raise Shasta Dam."

Westlands is also aggressively pushing legislation to remove the existing state law that protects the McCloud River from development or flooding. WWD is privately owned by 'farmers' that don't grow anything. They buy the water at a cheap 'agricultural' rate and resell the water further south at a profit.

Records obtained under the Public Records Act, revealed a "Secret Society" organized in 2009 to influence water rates (and other decisions) at California's largest public water district - The Metropolitan Water District. MWD has an annual budget of \$1.8 billion and serves a six-county region with an annual economy valued at greater than \$1 trillion.

The Delta Watershed acts as a natural limit to how much water can be diverted south. Each year, California pumps about 4.9 million acre feet of freshwater out of the Delta. The proposed Peripheral Tunnels, two giant water tunnels, would have the capacity to carry up to 11 million acre-feet annually. The proponents of the project say they would "never use the tunnels at full capacity."

Why then build them so large? Why not build *one* tunnel?

It is indisputable that the additional 6 million acre-feet of water yearly would come from the Sacramento River and other North State Rivers. Therefore, the full impact of the

Peripheral Tunnels must be part of a valid and legally defensible EIS.

According to the Sacramento Bee, Sacramento Mayor Kevin Johnson and City Manager John Shirey have expressed opposition to Governor Jerry Brown's proposal to build these giant tunnels. Johnson expressed concerns over the impact to the region's water supply and habitat. "For us, we want to be good stewards," the mayor said. "I'm going to speak out any chance I get." Shirey said the plan is moving "without any collaboration with the city of Sacramento."

This master plan to ship the North State's water south hinges on the Peripheral Tunnels. If the tunnels are not built, not enough water can get through to make the project viable.

No tunnels means no raising of Shasta Dam. The remaining Winnemem Wintu's sacred sites would not be flooded, businesses and homes in Lakehead would not be destroyed. The resorts on the Lake would not be ruined. The beautiful McCloud River would still be enjoyed by everyone. The City of Shasta Lake would not be devastated by an enormous quarry.

The full impacts of constructing the water tunnels under the Delta as a direct impact of the Shasta Dam raising project must be included.

Sincerely,

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